



STIC Search Report

EIC 1700

STIC Database Tracking Number: 150411

TO: Duc Truong
Location: 10D71
Art Unit : 1711
April 18, 2005

Case Serial Number: 10/621022

From: Usha Shrestha
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3519
usha.shrestha@uspto.gov

Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
- Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: TRONIZ, INC Examiner #: 69332 Date: 4/11/05
Art Unit: 1711 Phone Number 30 2-1081 Serial Number: 6/621,022
Mail Box and Bldg/Room Location: 6271 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

General formula of claim 1, specifically, the bottom formula on page 38. Thanks.

SCIENTIFIC REFERENCE BR
Sci & Tech Inf - Cnt.

APR 11 2005

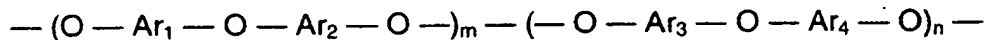
Pat. & T.M. Off.

Searcher: <u>USA</u>	NA Sequence (#) _____	STN <u>482-86</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Searcher Picked Up: <u>4/15/05</u>	Bibliographic _____	Dr.Link _____
Date Completed: <u>4/19/05</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>30</u>	Fulltext <u>A</u>	Sequence Systems _____
Clerical Prep Time: <u>50</u>	Patent Family _____	WWW/Internet _____
Online Time: <u>60</u>	Other _____	Other (specify) _____

621,022

CLAIMS

1. A poly(arylene ether) polymer including polymer repeat units of the following structure:

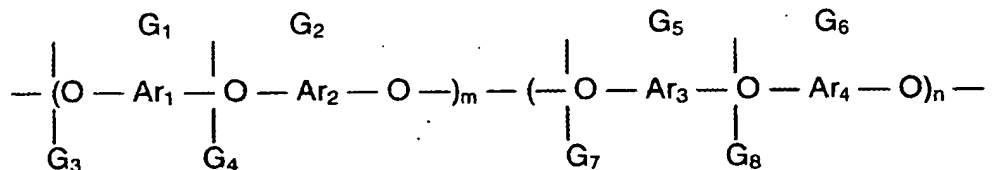


where Ar_1 , Ar_2 , Ar_3 , and Ar_4 are identical or different aryl radicals, m is 0.05 to 0.95, n is 1- m , and at least one of the aryl radicals is grafted to at least one hydroxyalkyl group.

2. The polymer of claim 1, wherein one of the aryl radicals of the polymer repeat units is grafted to one hydroxyalkyl group.

3. The polymer of claim 1, wherein at least one of the aryl radicals of the polymer repeat units is grafted to more than one hydroxyalkyl group.

4. The polymer of claim 1, wherein the polymer repeat units have the following structure:



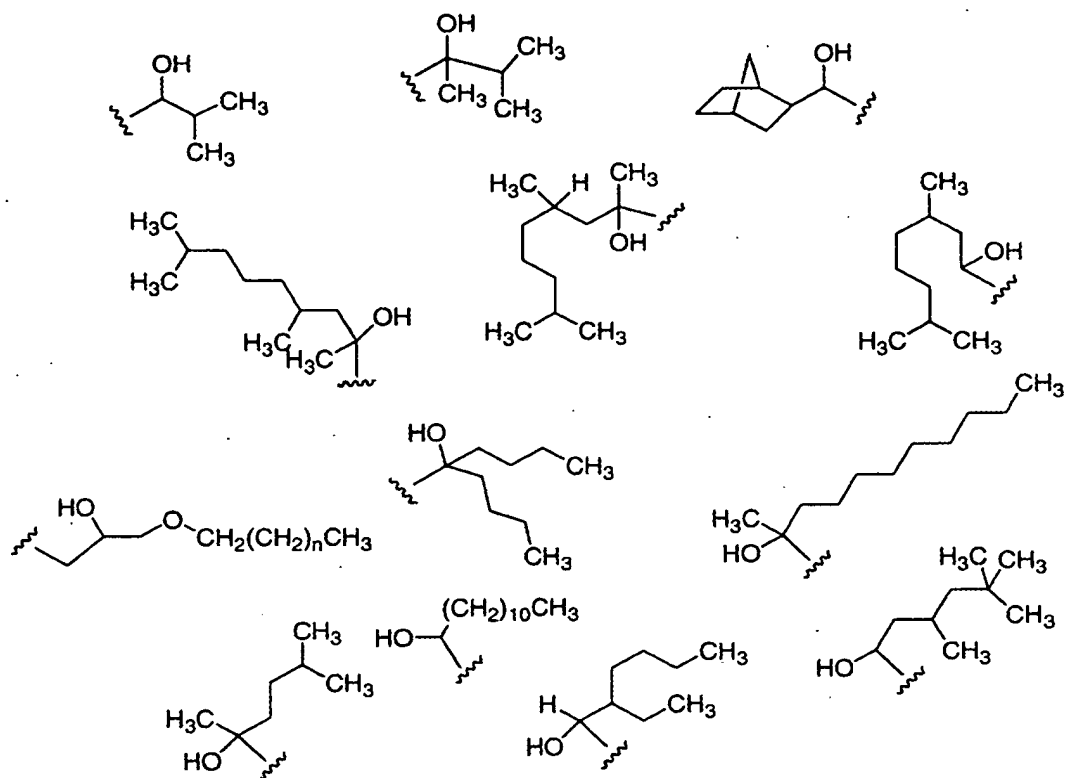
where G_1 , G_2 , G_3 , G_4 , G_5 , G_6 , G_7 and G_8 are identical or different species of the at least one hydroxyalkyl group.

5. The polymer of claim 1, wherein an average number of hydroxyalkyl groups per polymer repeat unit is 0.01 to 8.0.

6. The polymer of claim 5, wherein the average number of hydroxyalkyl groups per polymer repeat unit is 0.01 to 4.0.

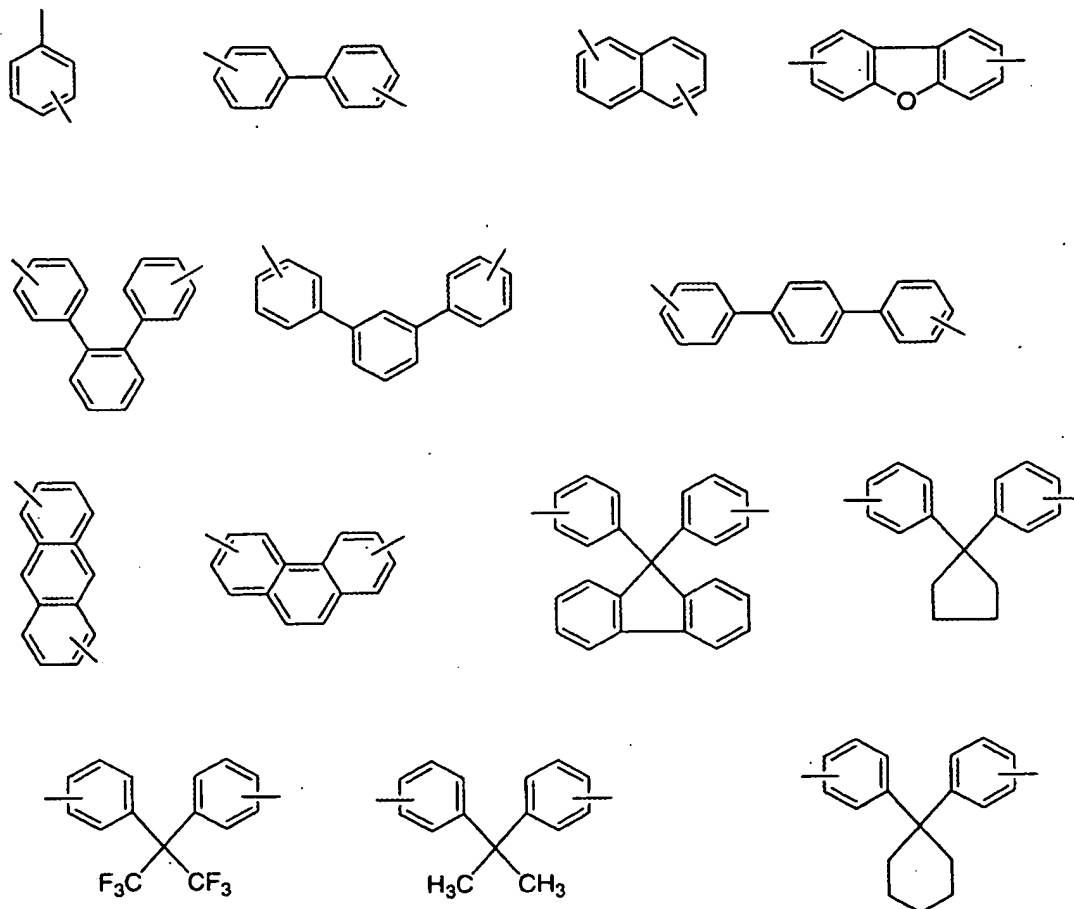
7. The polymer of claim 5, wherein the average number of hydroxyalkyl groups per polymer repeat unit is 0.25 to 1.0.

8. The polymer of claim 5, wherein the at least one hydroxyalkyl group is selected from the group consisting of:

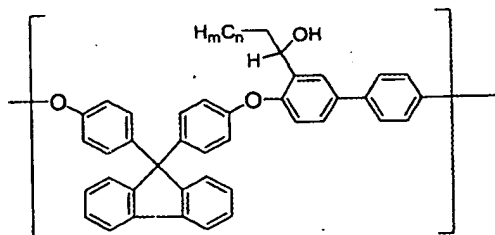
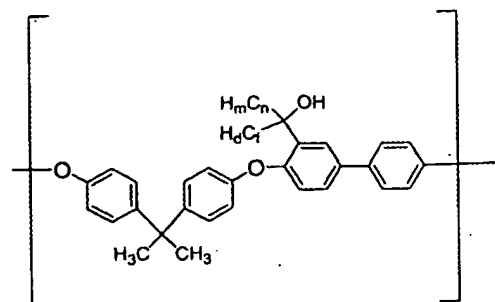
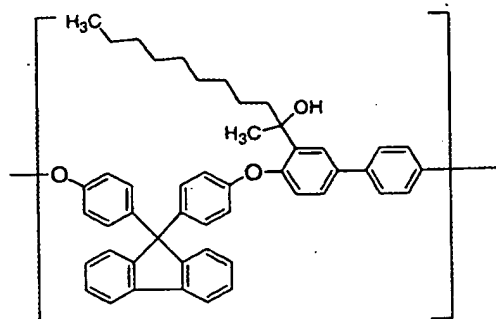


9. The polymer of claim 5, wherein the at least one hydroxyalkyl group
 5 is 2-undecanol.

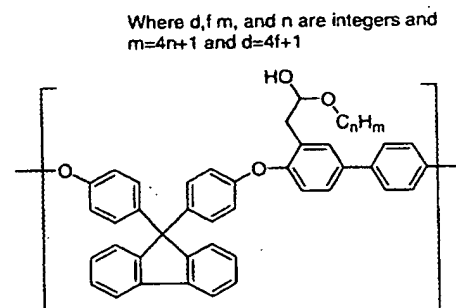
10. The polymer of claim 5, wherein the aryl radicals are independently
 selected from the group consisting of:



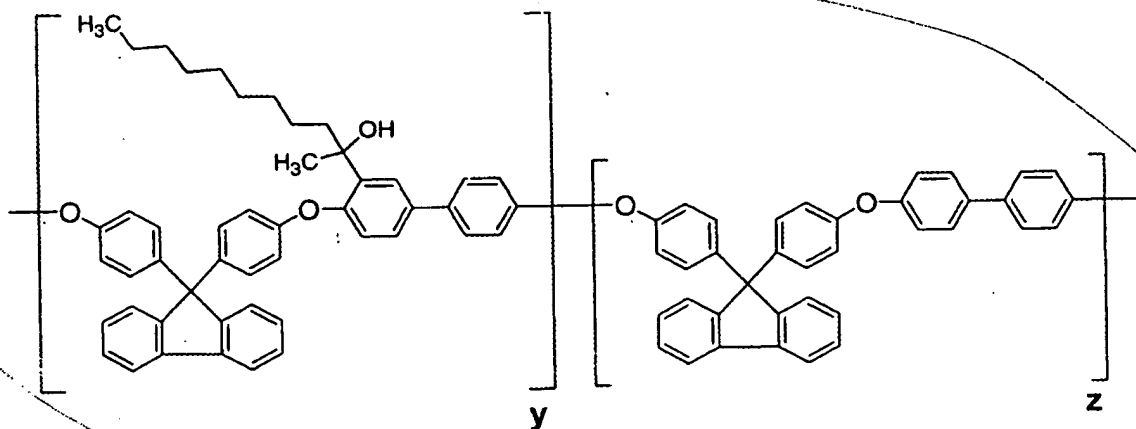
- 5 11. The polymer of claim 5, wherein at least one of the aryl radicals is selected from the group consisting of 9,9-bis(4-hydroxyphenyl)-fluorene, 2,2-diphenylhexafluoropropene and 2,2-diphenylpropene.
12. The polymer of claim 5, wherein the polymer repeat units are independently selected from the group consisting of:



Where m and n are integers and $m=4n+1$



Where m and n are integers and $m=4n+1$



where $y + z = 1$ and $y > 0.01$



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UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
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 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov



Bib Data Sheet

CONFIRMATION NO. 1155

SERIAL NUMBER 10/621,022	FILING DATE 07/16/2003 RULE	CLASS 528	GROUP ART UNIT 1711	ATTORNEY DOCKET NO. 06318 USA
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APPLICANTS

William Franklin Burgoyne JR., Allentown, PA;
 Ching-Ping Wong, Duluth, GA;
 Silvia Liong, Atlanta, GA;

** CONTINUING DATA *****

** FOREIGN APPLICATIONS *****

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
 ** 10/17/2003

Foreign Priority claimed 35 USC 119 (a-d) conditions met	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance	STATE OR COUNTRY PA	SHEETS DRAWING 4	TOTAL CLAIMS 29	INDEPENDENT CLAIMS 1
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Verified and Acknowledged
 Examiner's Signature _____ Initials _____

ADDRESS
 23543
 AIR PRODUCTS AND CHEMICALS, INC.
 PATENT DEPARTMENT
 7201 HAMILTON BOULEVARD
 ALLENTOWN, PA
 181951501

TITLE
 Poly(arylene ether)s bearing grafted hydroxyalkyls for use in electrically conductive adhesives

FILING FEE RECEIVED 912	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue)
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=> fil reg

FILE 'REGISTRY' ENTERED AT 15:24:05 ON 15 APR 2005
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FILE 'HCAPLUS' ENTERED AT 14:38:33 ON 15 APR 2005

E US200!-6210022/AP,PN
L12 0 S US200!-6210022/APPS,PN
L13 1 S US200!-621022/APPS,PN
SEL L13 RN

FILE 'REGISTRY' ENTERED AT 14:42:05 ON 15 APR 2005

L14 23 S E1-E23
L15 STR
L16 STR
L17 STR L16
L18 SCR 2043
L19 5 S L15 AND L17 AND L18
L20 STR L17
L21 0 S L15 AND L20 AND L18
L22 STR
L23 0 S L15 AND L22 AND L18
L24 STR L15
L25 STR L22
L26 SCR 1841 AND 2008 AND 1700 AND 2043
L27 1 S L24 AND L25 AND L26
L28 1 S 187591-29-3
L29 STR 197923-27-6
L30 2 S L29
L31 36 S L24 AND L25 AND L26 FULL
L32 8 S L29 FULL

FILE 'HCAPLUS' ENTERED AT 15:15:20 ON 15 APR 2005

L33 14 S L31
L34 1 S L32(L)HYDROXYALKYL?

FILE 'REGISTRY' ENTERED AT 15:18:23 ON 15 APR 2005

FILE 'HCAPLUS' ENTERED AT 15:19:29 ON 15 APR 2005

L35 55 S L32
L36 1 S L32 AND HYDROXYALKYL?
L37 15 S L33 OR L34

FILE 'REGISTRY' ENTERED AT 15:24:05 ON 15 APR 2005

=> d que 133

L24 STR

Cb—O

1 2

Cb—O—Cb

3 4 5

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L25 STR

Cb—O—Cb—Ak—OH

1 2 3 4 5

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

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NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

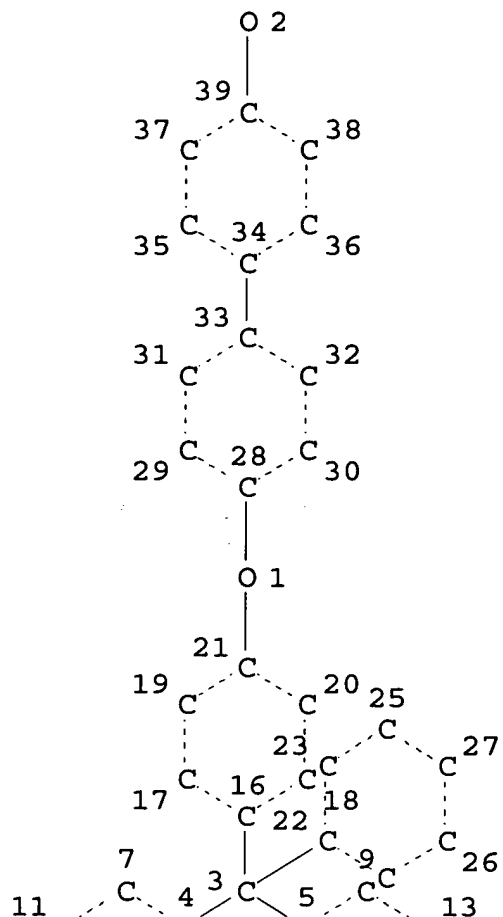
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L31 36 SEA FILE=REGISTRY SSS FUL L24 AND L25 AND L26

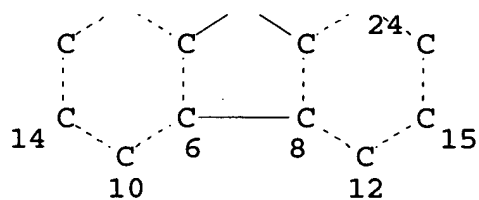
L33 14 SEA FILE=HCAPLUS ABB=ON PLU=ON L31

=> d que 134

L29 STR



Page 1-A



Page 2-A

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 39

STEREO ATTRIBUTES: NONE

L32 8 SEA FILE=REGISTRY SSS FUL L29

L34 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L32(L)HYDROXYALKYL?

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 15:24:32 ON 15 APR 2005

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=> d l37 1-15 ibib abs hitstr hitind

L37 ANSWER 1 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:60005 HCAPLUS

DOCUMENT NUMBER: 142:135210

TITLE: Poly(arylene ether)s bearing hydroxyalkyls
chain for use in electrically conductive
adhesives

INVENTOR(S): Burgoyne, William Franklin; Wong, Ching-Ping;
Liong, Silvia

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 25 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
-----	----	-----	-----

US 2005014921	A1	20050120	US 2003-621022

2003

0716

PRIORITY APPLN. INFO.:

US 2003-621022

2003

0716

AB A poly(arylene ether) polymer includes polymer repeat units of
the

following structure:- (OAr1OAr2O)m(OAr3OAr4O)n- where Ar1, Ar2, Ar3, and Ar4 = identical or different aryl radicals, m = 0.05-0.95, n = 1 - m, and at least one of the aryl radicals is grafted to at least one hydroxyalkyl group, such as 2-undecanol. The polymer is especially useful in elec. conductive adhesives.

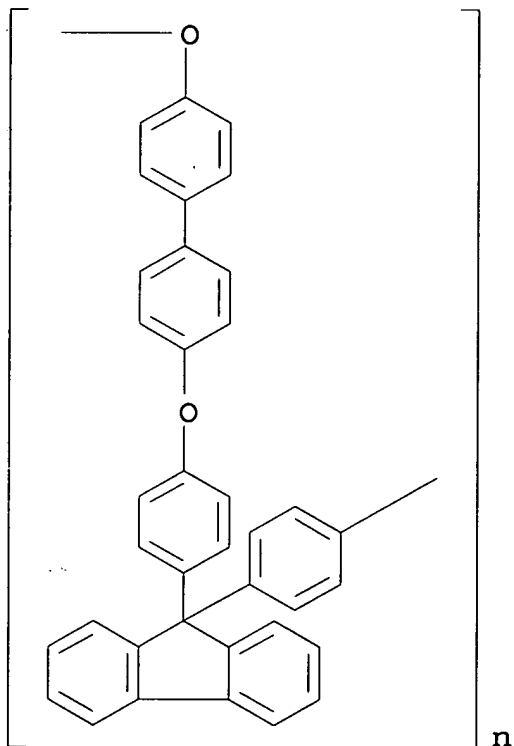
IT 197923-27-6DP, PAE-2, reaction products with

hydroxyalkyls

(poly(arylene ether)s bearing **hydroxyalkyls** chain for use in elec. conductive adhesives)

RN 197923-27-6 HCAPLUS

CN Poly(oxy[1,1'-biphenyl]-4,4'-diyloxy-1,4-phenylene-9H-fluoren-9-ylidene-1,4-phenylene) (9CI) (CA INDEX NAME)



IC ICM C08G065-00

NCL 528086000; 528488000; 528491000; 528493000

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 76

IT 110-12-3DP, 5-Methyl-2-hexanone, reaction products with poly(arylene ether)s 112-12-9DP, 2-Undecanone, reaction products

with poly(arylene ether)s 112-54-9DP, Dodecyl aldehyde, reaction

products with poly(arylene ether)s 123-05-7DP, 2-Ethylhexanal, reaction products with poly(arylene ether)s 2461-18-9DP, Dodecyl glycidyl ether, reaction products with poly(arylene ether)s 3452-97-9DP, 3,5,5-Trimethylhexanol, reaction products with poly(arylene ether)s 38954-75-5DP, Tetradecyl glycidyl ether, reaction products with poly(arylene ether)s 187591-29-3DP, 9,9-Bis(4-hydroxyphenyl)fluorene disodium salt-4,4'-dibromobiphenyl copolymer, reaction products with hydroxyalkyls 197923-27-6DP, PAE-2, reaction products with hydroxyalkyls (poly(arylene ether)s bearing hydroxyalkyls chain for use in elec. conductive adhesives)

L37 ANSWER 2 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:670183 HCAPLUS
 DOCUMENT NUMBER: 142:94214
 TITLE: New and versatile methods for dye attachment to fluorinated polyimides
 AUTHOR(S): Wright, Michael E.; Fallis, Stephen; Guenther, Andrew J.; Baldwin, Lawrence C.
 CORPORATE SOURCE: Chemistry & Materials Division, NAVAIR, China Lake, CA, 93555, USA
 SOURCE: Polymeric Materials: Science and Engineering (2004), 91, 879-880
 CODEN: PMSEDG; ISSN: 0743-0515
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal; (computer optical disk)
 LANGUAGE: English
 AB A chemical efficient and mild synthetic route for the attachment of organic dyes to robust polyimide backbones having a high glass transition temperature is presented. 3,5- And 3,4-bis(4-aminophenoxy)-1-hydroxymethylbenzene were prepared from Me 3,5- and 3,4-dihydroxybenzoate and used as co-monomer in polyimide preparation (from 2,2-bis(4-aminophenyl)hexafluoropropane and 6-FDA). The benzyl alc. group of these sub-units was then reacted with 1,6-diisocyanatohexane resulting in an urethane-linked isocyanatohexyl group that was subsequently coupled with DR-1 dye forming the dye-attached polymer.
 IT 817623-28-2DP, phthalimide-terminated, reaction products with diisocyanatohexane and Disperse Red 1 817623-30-6DP, phthalimide-terminated (preparation of hydroxymethyl group-containing fluorinated polyimides)

and attachment of disperse dye)

RN 817623-28-2 HCAPLUS

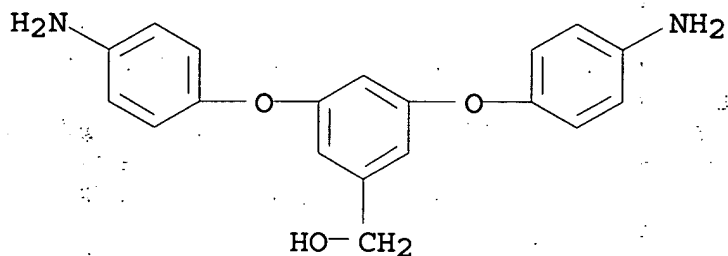
CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 3,5-bis(4-aminophenoxy)benzenemethanol and

4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 370088-22-5

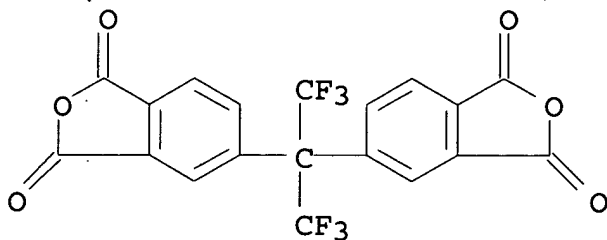
CMF C19 H18 N2 O3



CM 2

CRN 1107-00-2

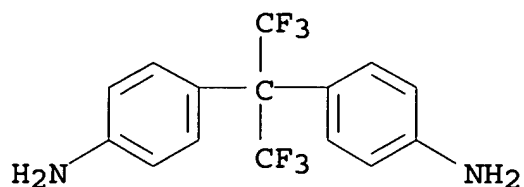
CMF C19 H6 F6 O6



CM 3

CRN 1095-78-9

CMF C15 H12 F6 N2



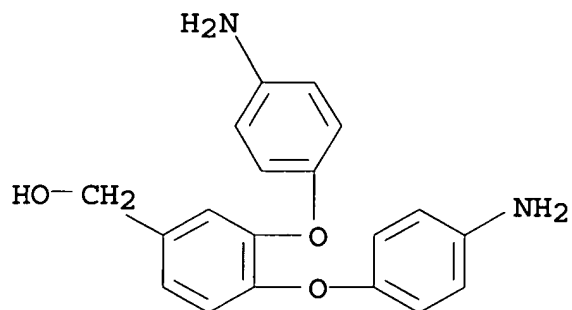
RN 817623-30-6 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 3,4-bis(4-aminophenoxy)benzenemethanol and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 817623-26-0

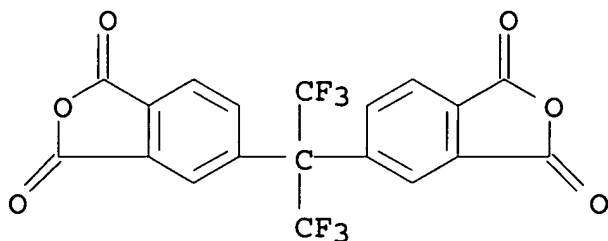
CMF C19 H18 N2 O3



CM 2

CRN 1107-00-2

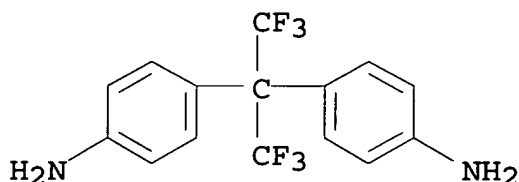
CMF C19 H6 F6 O6



CM 3

CRN 1095-78-9

CMF C15 H12 F6 N2



CC 35-5 (Chemistry of Synthetic High Polymers)

IT 822-06-0DP, 1,6-Diisocyanatohexane, reaction products with hydroxymethyl group-containing fluorinated polyimides

817623-28-2DP, phthalimide-terminated, reaction products with diisocyanatohexane and Disperse Red 1 817623-30-6DP, phthalimide-terminated

(preparation of hydroxymethyl group-containing fluorinated polyimides

and attachment of disperse dye)

REFERENCE COUNT:

2

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS

AVAILABLE

IN THE RE FORMAT

L37 ANSWER 3 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:139363 HCAPLUS

DOCUMENT NUMBER: 140:182769

TITLE: Fluorine-containing poly(aryl ethers), curable

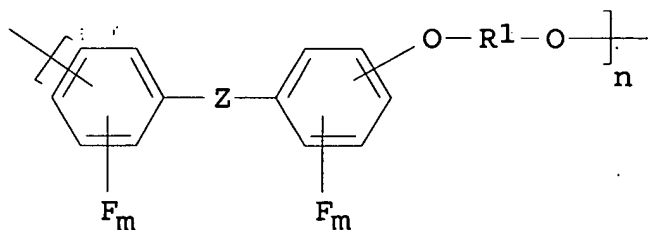
compositions, cured materials, adhesives, and ionic conductors therefrom, and manufacture

of

INVENTOR(S): solvent-soluble engineering plastics therefor
Akutagawa, Hironobu; Omote, Kazushi;
Matsumoto, Takeshi; Nishiji, Ai; Yoshida,
Masaya
PATENT ASSIGNEE(S): Nippon Shokubai Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE			
-----	----	-----	-----

JP 2004051978	A2	20040219	JP 2003-155624
2003			
0530			
PRIORITY APPLN. INFO.:			JP 2002-160397 A
2002			
0531			
GI			



AB The F-containing poly(aryl ethers), showing high heat resistance and mech. strength, contain I units (R_1 = C1-150 divalent organic group;
Z = divalent organic group, single bond; $m = 1-4$) and have OH and/or phosphoric acid groups in R_1 . Solvent-soluble widely-useful

of engineering plastics are manufactured using compds. containing 2

phenolic OH groups and ≥ 1 alc. OH groups as starting materials. Also claimed are ionic conductors, useful for electrolyte membranes in fuel cells, etc., comprising

F-containing

poly(aryl ethers) having OH, carboxy, and/or PO₃H groups and proton conductivity-imparting agents. Thus, 4,4'-bis(2,3,4,5,6-pentafluorobenzoyl) di-Ph ether was copolymd. with Epicure 171N (resin) to give F-containing polyether-polyketone, which was

mixed

with tungstophosphoric acid and cured to give a film showing electrocond. 3.2×10^{-5} and 6.4×10^{-6} S/cm, at 80 and 140°, resp.

IT 659720-09-9P

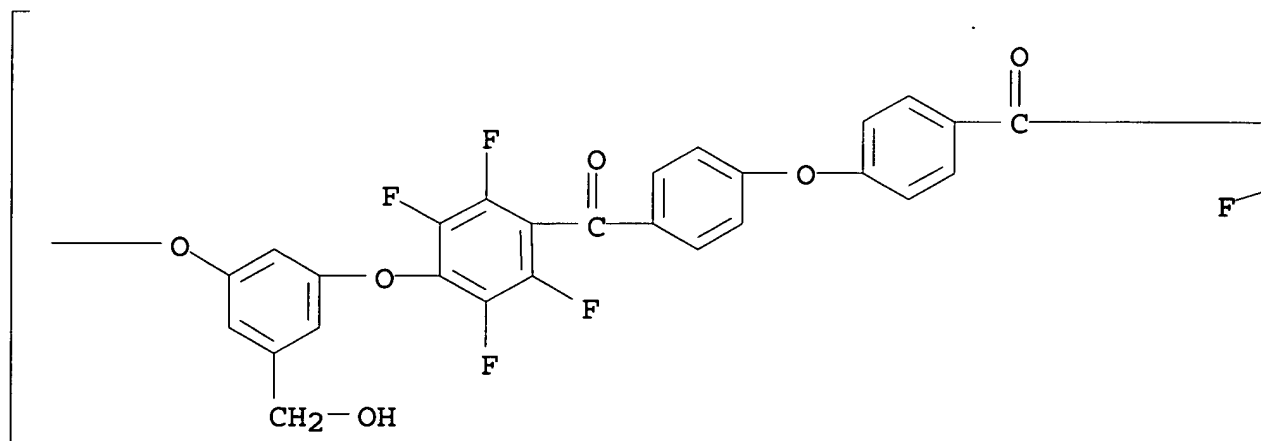
(fluorine-containing poly(aryl ethers) showing good heat resistance

useful for adhesives and ionic conductors)

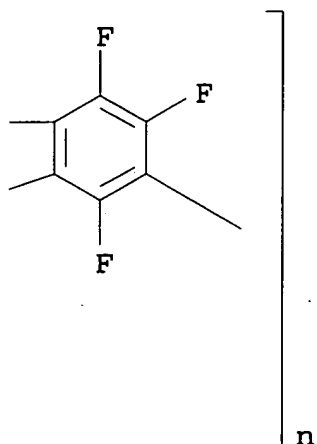
RN 659720-09-9 HCAPLUS

CN Poly[oxy[5-(hydroxymethyl)-1,3-phenylene]oxy(2,3,5,6-tetrafluoro-1,4-phenylene)carbonyl-1,4-phenyleneoxy-1,4-phenylenecarbonyl(2,3,5,6-tetrafluoro-1,4-phenylene)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C08G065-42
 ICS H01B001-06; H01M008-02; H01M008-10
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 52
 IT 75-13-8DP, Isocyanic acid, esters, polymers with
 hydroxy-containing
 aromatic fluoropolymer-polyether-polyketones 323192-69-4P
 659720-08-8P **659720-09-9P** 659720-10-2P 659720-11-3P
 659720-12-4P 659720-68-0DP, 4,4'-Bis(2,3,4,5,6-
 pentafluorobenzoyl) diphenyl ether-Epicure 171N copolymer ester
 with phosphoryl chloride, hydrolyzed 659733-00-3P
 659733-01-4P
 (fluorine-containing poly(aryl ethers) showing good heat
 resistance
 useful for adhesives and ionic conductors)

L37 ANSWER 4 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:57412 HCAPLUS
 DOCUMENT NUMBER: 140:119825
 TITLE: Electrophotographic photosensitive member,
 process cartridge and electrophotographic
 apparatus
 INVENTOR(S): Yoshimura, Kimihiro; Morikawa, Yosuke;
 Ikezue,
 Tatsuya; Nakata, Kouichi; Tanaka, Daisuke
 PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
 SOURCE: Eur. Pat. Appl., 78 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent

LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
EP 1383008	A2	20040121	EP 2003-15986
2003			
0714			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
JP 2004046222	A2	20040212	JP 2003-272873
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US 2004023139	A1	20040205	US 2003-616944
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CN 1477452	A	20040225	CN 2003-145896
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PRIORITY APPLN. INFO.:			JP 2002-205788 A
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			JP 2002-205790 A
2002			
0715			

JP 2002-205791

A

2002

0715

OTHER SOURCE(S): MARPAT 140:119825

AB The present invention relates to an electrophotog. photosensitive member having a surface layer containing at least one of a charge-transporting material and conductive particles and a polymer obtained by polymerizing at least one selected from the group consisting of a polyhydroxymethylbisphenol monomer having a specific structure, a polyhydroxymethylbisphenol oligomer having a specific structure, a polyhydroxymethyltrisphenol monomer having a specific structure and a polyhydroxymethyltrisphenol oligomer having a specific structure; and a process cartridge and an electrophotog. apparatus which have the electrophotog. photosensitive member.

IT 647015-76-7 647015-83-6

(electrophotog. photosensitive member for process cartridge and electrophotog. apparatus containing)

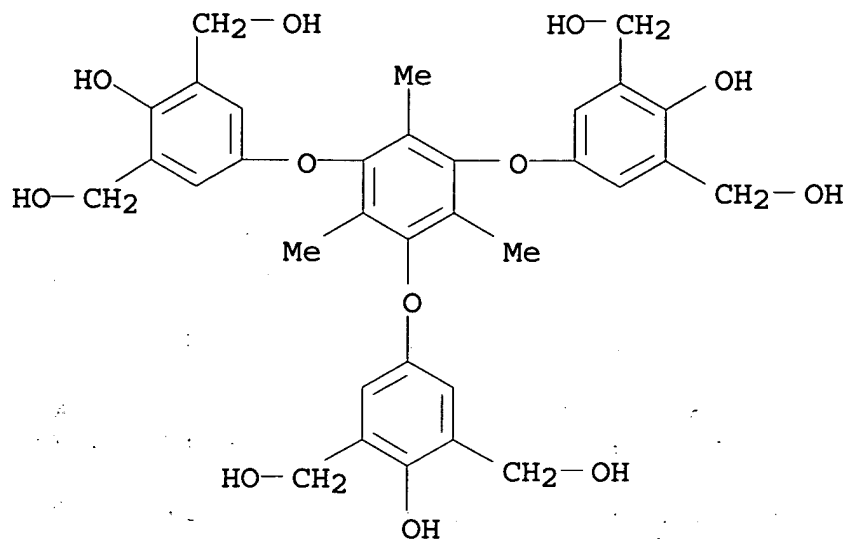
RN 647015-76-7 HCAPLUS

CN 1,3-Benzenedimethanol, 5,5',5''-[(2,4,6-trimethyl-1,3,5-benzenetriyl)tris(oxy)]tris[2-hydroxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 647015-75-6

CMF C33 H36 O12



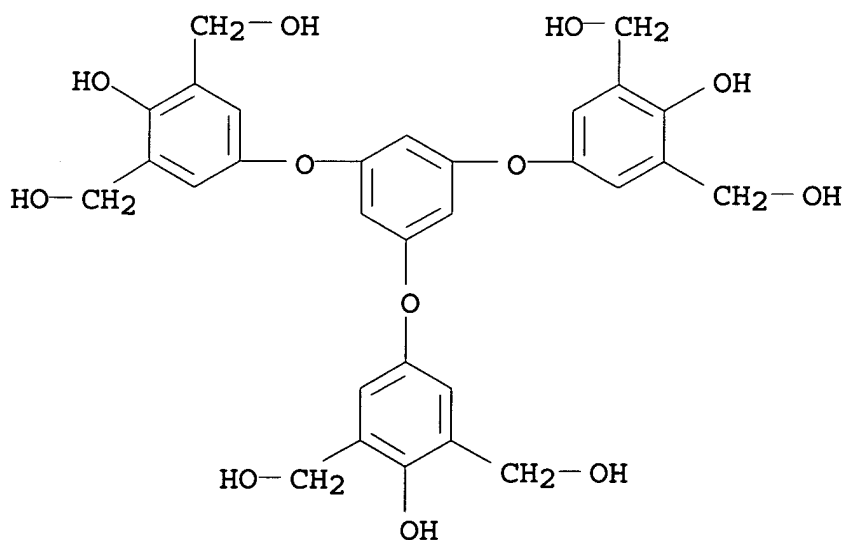
RN: 647015-83-6 HCAPLUS

CN 1,3-Benzenedimethanol, 5,5',5'''-[1,3,5-benzenetriyltris(oxy)]tris[2-hydroxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 647015-82-5

CMF C30 H30 O12



IC ICM G03G005-05
ICS G03G005-14; G03G005-147
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
IT 115980-32-0 180626-99-7 441768-79-2 647015-47-2
647015-49-4 647015-51-8 647015-52-9 647015-54-1
647015-55-2 647015-57-4 647015-60-9 647015-61-0
647015-63-2 647015-64-3 647015-66-5 647015-68-7
647015-70-1 647015-71-2 647015-72-3 647015-73-4
647015-74-5 647015-76-7 647015-79-0 647015-81-4
647015-83-6 647015-84-7 647015-85-8 647015-87-0
647015-89-2 647015-91-6 647015-93-8 647015-95-0
647015-97-2

(electrophotog. photosensitive member for process cartridge
and
electrophotog. apparatus containing)

L37 ANSWER 5 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:911017 HCAPLUS

DOCUMENT NUMBER: 138:15222

TITLE: Novel covalent crosslinked cation conducting
blend membranes for DMFC

AUTHOR(S): Kerres, J.; Zhang, W.; Joerissen, L.; Gogel,
V.

CORPORATE SOURCE: Institut fuer Chemische Verfahrenstechnik,
Universitaet Stuttgart, Ulm, Germany

SOURCE: GDCh-Monographien (2001),
23(Elektronenuebertragung in Chemie und
Biochemie), 121-128
CODEN: GDCHAI

PUBLISHER: Gesellschaft Deutscher Chemiker

DOCUMENT TYPE: Journal

LANGUAGE: German

AB This contribution includes the preparation and characterization
of

novel covalently cross-linked ionomer blend membranes from
sulfochlorinated poly(ether-ketones), which are hydrolyzed to the
resp. sulfonated poly(ether-ketones) after membrane formation,
and
from sulfinated poly(ethersulfones), as well as the results of
the
application of these membranes to direct methanol fuel cells
(DMFC).

IT 374936-88-6

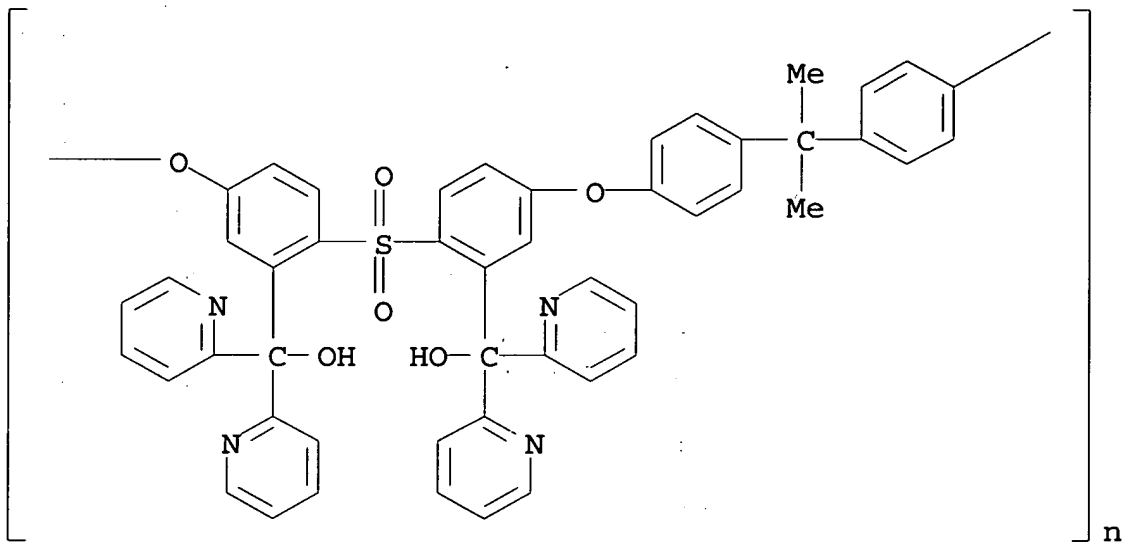
(polymer blend membranes containing; acidic-basic-type polymer
blends as candidate fuel cell membrane assemblies in

solid-state direct-methanol fuel cells)

RN 374936-88-6 HCAPLUS

CN

Poly[oxy[3-(hydroxy-di-2-pyridinylmethyl)-1,4-phenylene]sulfonyl[2-(hydroxy-di-2-pyridinylmethyl)-1,4-phenylene]oxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene] (9CI) (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

Section cross-reference(s): 38

IT 24938-67-8D, Poly[oxy(2,6-dimethyl-1,4-phenylene)], aminated
 25135-51-7, Bisphenol a-bis(4-chlorophenyl) sulfone copolymer; SRU
 25154-01-2, Bisphenol a-bis(4-chlorophenyl) sulfone copolymer
 27380-27-4D, aminated 28576-59-2 31694-16-3D, aminated
 374936-88-6

(polymer blend membranes containing; acidic-basic-type polymer blends as candidate fuel cell membrane assemblies in solid-state direct-methanol fuel cells)

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS

AVAILABLE

IN THE RE FORMAT

L37 ANSWER 6 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:208090 HCAPLUS

DOCUMENT NUMBER: 137:235101

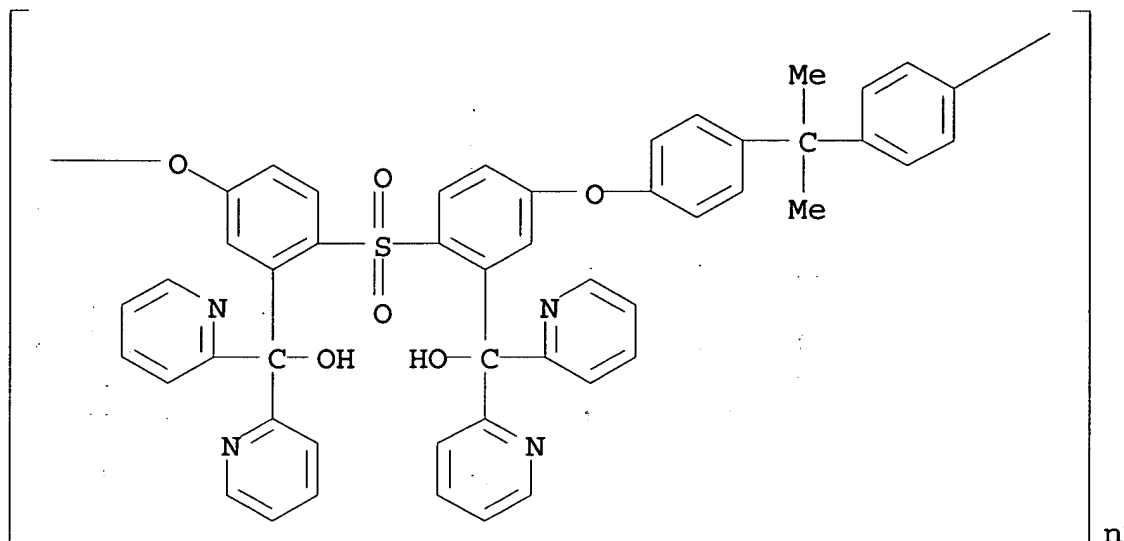
TITLE: New membranes for direct methanol fuel cells

AUTHOR(S): Jorissen, L.; Gogel, V.; Kerres, J.; Garche,

J.
CORPORATE SOURCE: Electrochemical Energy Storage and
Conversion,
Division 3, Center for Solar Energy and
Hydrogen Research Baden-Wuerttemberg, Ulm,
D-89081, Germany
SOURCE: Journal of Power Sources (2002), 105(2),
267-273
CODEN: JPSODZ; ISSN: 0378-7753
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The performance of direct methanol fuel cells (DMFC) is limited
by
the cross-over of methanol through the electrolyte. Electrolyte
membranes prepared by blending of sulfonated arylene main-chain
polymers like sulfonated PEEK (Victrex, SPEEK) or sulfonated
polysulfones (Udel, SPSU) with basic polymers like
poly(4-vinylpyridine) or polybenzimidazoles showed excellent
chemical
and thermal stability, good proton-conductivity, and good
performance in
H₂ PEM fuel cells. Furthermore, these materials have potentially
lower methanol cross-over when compared to standard Nafion-type
membranes. Membrane electrode assemblies (MEAs) were prepared
from
such membranes according to the thin-film method. The catalyst
layer was spray-coated directly on the heated membrane using an
ink consisting of an aqueous suspension of catalyst powder and
Nafion
solution. Unsupported catalysts were used for anode and cathode.
A
rather high catalyst loading was chosen in order to minimize the
effects of limited catalyst utilization due to flooding
conditions
at both electrodes. Membrane assemblies made from these
membranes
can achieve elec. performance comparable to Nafion membranes
despite a non-optimized interface between catalyst and
electrolyte
membrane due to the use of Nafion as binder in the catalyst
layer.
IT 374936-88-6
(polymer blend membranes containing; acidic-basic-type polymer
blends as candidate fuel cell membrane assemblies in
solid-state fuel cells)
RN 374936-88-6 HCAPLUS

CN

Poly[oxy[3-(hydroxy-di-2-pyridinylmethyl)-1,4-phenylene]sulfonyl[2-(hydroxy-di-2-pyridinylmethyl)-1,4-phenylene]oxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene] (9CI) (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

IT 24938-67-8D, Poly[oxy(2,6-dimethyl-1,4-phenylene)], aminated
 25135-51-7D, Bisphenol a-bis(4-chlorophenyl) sulfone copolymer
 SRU, derivs. 25154-01-2D, Bisphenol a-bis(4-chlorophenyl)
 sulfone copolymer, derivs. 27380-27-4D, sulfonated
 31694-16-3D, sulfonated **374936-88-6**

(polymer blend membranes containing; acidic-basic-type polymer blends as candidate fuel cell membrane assemblies in solid-state fuel cells)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS

AVAILABLE

IN THE RE FORMAT

L37 ANSWER 7 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:850656 HCAPLUS

DOCUMENT NUMBER: 136:7187

TITLE: Covalently- and ionically-crosslinked polymers

for use in membranes

INVENTOR(S): Kerres, Jochen; Zhang, Wei; Tang, Chy-Ming

PATENT ASSIGNEE(S): Universitaet Stuttgart, Germany

SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

DATE	PATENT NO.	KIND	DATE	APPLICATION NO.
2000	DE 10024576	A1	20011122	DE 2000-10024576
0519	CA 2407250	AA	20011122	CA 2001-2407250
2001				
0517	WO 2001087992	A2	20011122	WO 2001-EP5644
2001				
0517	WO 2001087992	A3	20020523	
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	BR 2001010876	A	20030311	BR 2001-10876
2001				
0517	EP 1292632	A2	20030319	EP 2001-960223
2001				
0517				

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2003533560 T2 20031111 JP 2001-585209

2001

0517

US 2003208014 A1 20031106 US 2003-275854

2003

0512

US 6767585 B2 20040727
 PRIORITY APPLN. INFO.: DE 2000-10024576 A

2000

0519

WO 2001-EP5644 W

2001

0517

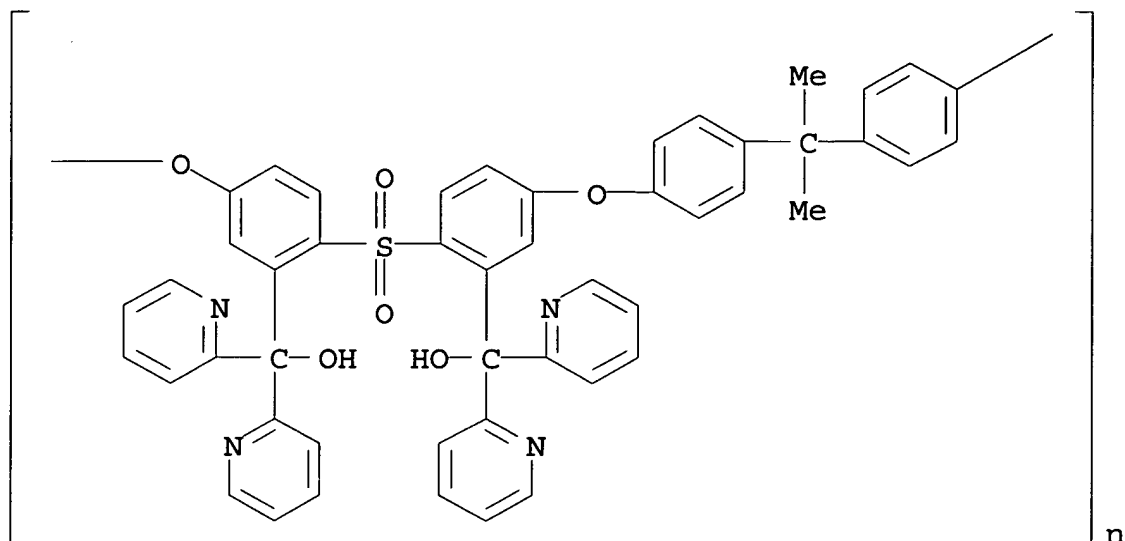
AB The title polymers, giving flexible membranes with good H₂O retention, bear sulfonate, phosphate, and/or carboxylate groups; sulfinate groups, and tertiary amino groups and can be crosslinked by di-, tri-, or oligofunctional aliphatic or aromatic halides, resulting in quaternary ammonium crosslinking groups of specified structure. Stirring a solution of 3 g sulfonated polyether-polyketone Li salt [ion-exchange capacity (IEC) 1.8 mequiv./g], 0.3 g polyether-polysulfone sulfinate Li salt (IEC 1.95 mequiv./g), 0.3 g poly[oxy-1,4-phenyleneisopropylidene-1,4-phenylene-[3-(di-2-pyridylhydroxymethyl)-1,4-phenylene]sulfonyl-[2-(di-2-pyridylhydroxymethyl)-1,4-phenylene]], and 18 g N-methylpyrrolidone with 0.205 mL I(CH₂)₄I for 15 min, casting a film on glass, and drying at 80-130° in vacuo gave a membrane with IEC 0.86 mequiv./g, swelling in H₂O (60-90°, 24 h) 22.9%, and sp. resistance (H⁺ form, 0.2N HCl) 35.96 Ω-cm.

IT 374936-88-6DP, reaction products with polyhalohydrocarbons (covalently- and ionically-crosslinked polymers for use in membranes)

RN 374936-88-6 HCAPLUS

CN

Poly[oxy[3-(hydroxy-di-2-pyridinylmethyl)-1,4-phenylene]sulfonyl[2-(hydroxy-di-2-pyridinylmethyl)-1,4-phenylene]oxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene] (9CI) (CA INDEX NAME)



IC ICM C08J005-24

ICS C08L081-06; H01M008-02; B01D061-00; B01D053-22

CC 38-3 (Plastics Fabrication and Uses)

IT 25135-51-7DP, sulfinated, lithium salts 27380-27-4DP,
Poly(oxy-1,4-phenylene-carbonyl-1,4-phenylene), sulfonylated,
lithium salts 374936-88-6DP, reaction products with
polyhalohydrocarbons
(covalently- and ionically-crosslinked polymers for use in
membranes)

L37 ANSWER 8 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:165073 HCAPLUS

DOCUMENT NUMBER: 120:165073

TITLE: Chemistry and properties of polyimides
containing benzhydrol groups

AUTHOR(S): Connell, J. W.; Croall, C. I.; Hergenrother,
P. M.

CORPORATE SOURCE: Langley Res. Cent., NASA, Hampton, VA,
23665-5225, USA

SOURCE: Polymer Preprints (American Chemical Society,
Division of Polymer Chemistry) (1992), 33(1),
1101-2

CODEN: ACPPAY; ISSN: 0032-3934

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Polyimides are prepared from bis(phthalic anhydrides) and (m-H₂NC₆H₄Z)₂CHOH (Z = direct bond or p-OC₆H₄); the thermal properties of the polyimides are discussed.

IT 153614-39-2P 153614-40-5P 153614-41-6P
153614-42-7P 153614-43-8P 153614-44-9P
153614-45-0P 153614-46-1P 153614-47-2P
153614-48-3P 153614-49-4P 153614-50-7P
153614-51-8P 153614-52-9P 153614-53-0P
153614-54-1P

(preparation and thermal properties of, structure in relation to)

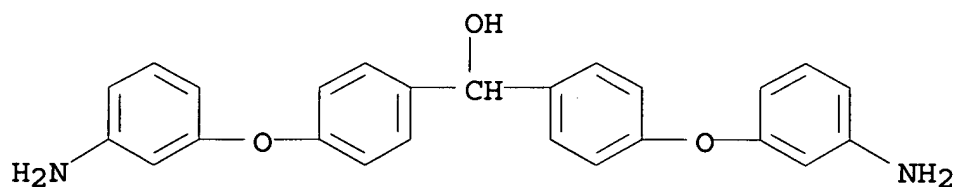
RN 153614-39-2 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4-(3-aminophenoxy)- α -[4-(3-aminophenoxy)phenyl]benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 153614-38-1

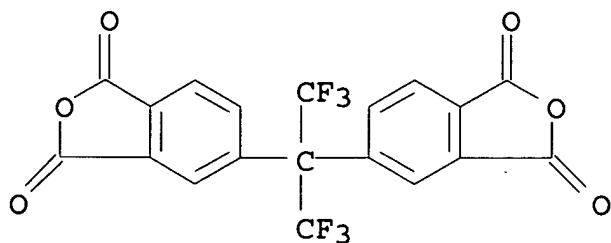
CMF C25 H22 N2 O3



CM 2

CRN 1107-00-2

CMF C19 H6 F6 O6



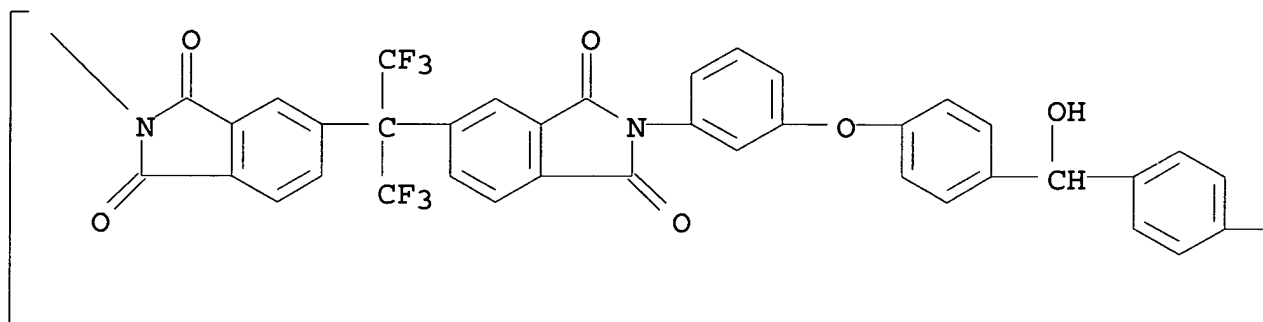
RN 153614-40-5 HCAPLUS

CN

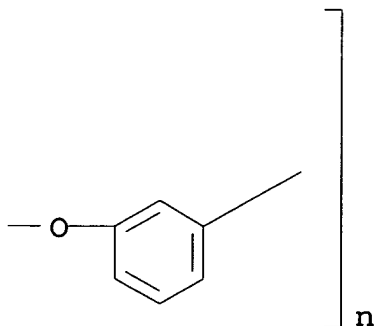
Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-

1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylene(hydroxymethylene)-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



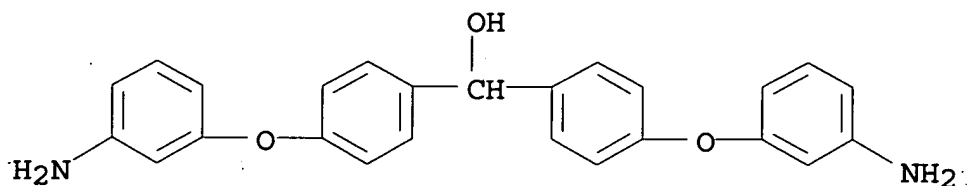
RN 153614-41-6 HCAPLUS

CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with
4-(3-aminophenoxy)- α -[4-(3-aminophenoxy)phenyl]benzenemethan
ol (9CI) (CA INDEX NAME)

CM 1

CRN 153614-38-1

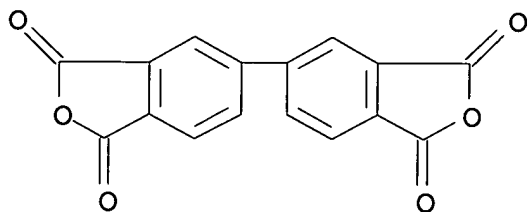
CMF C25 H22 N2 O3



CM 2

CRN 2420-87-3

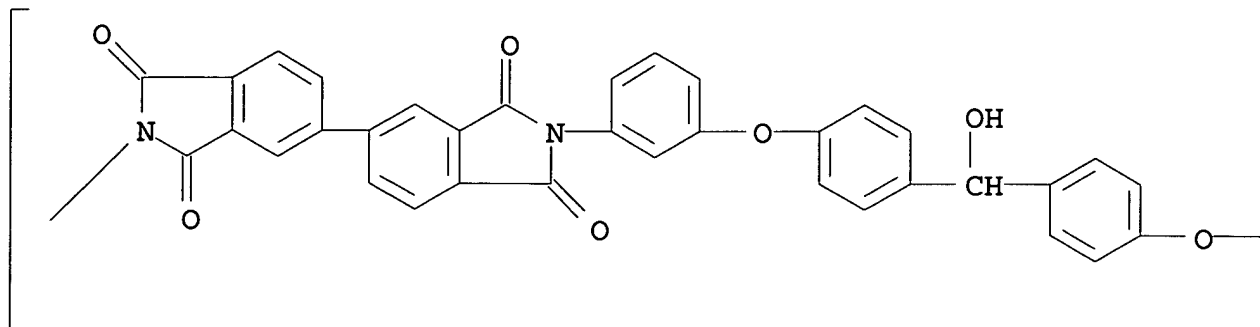
CMF C16 H6 O6



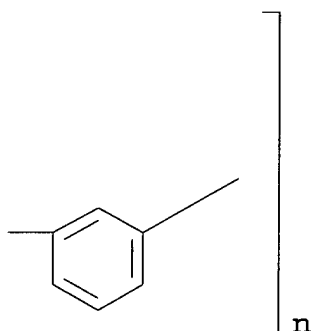
RN 153614-42-7 HCAPLUS

CN Poly[(1,1',3,3'-tetrahydro-1,1',3,3'-tetraoxo[5,5'-bi-2H-
isoindole]-2,2'-diyl)-1,3-phenyleneoxy-1,4-
phenylene(hydroxymethylene)-1,4-phenyleneoxy-1,3-phenylene] (9CI)
(CA INDEX NAME)

PAGE 1-A



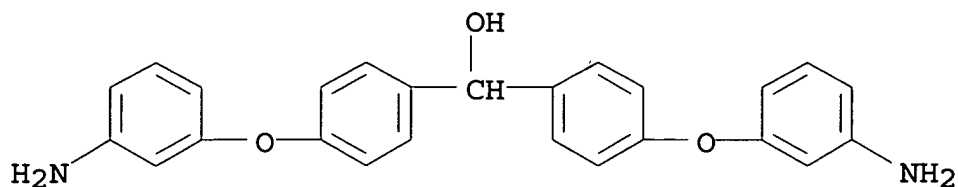
PAGE 1-B



RN 153614-43-8 HCAPLUS
 CN 1,3-Isobenzofurandione, 5,5'-(1,3-phenylenedicarbonyl)bis-,
 polymer with 4-(3-aminophenoxy)- α -[4-(3-
 aminophenoxy)phenyl]benzenemethanol (9CI) (CA INDEX NAME)

CM 1

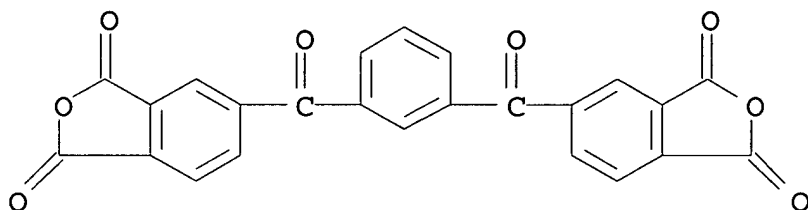
CRN 153614-38-1
 CMF C25 H22 N2 O3



CM 2

CRN 23602-88-2

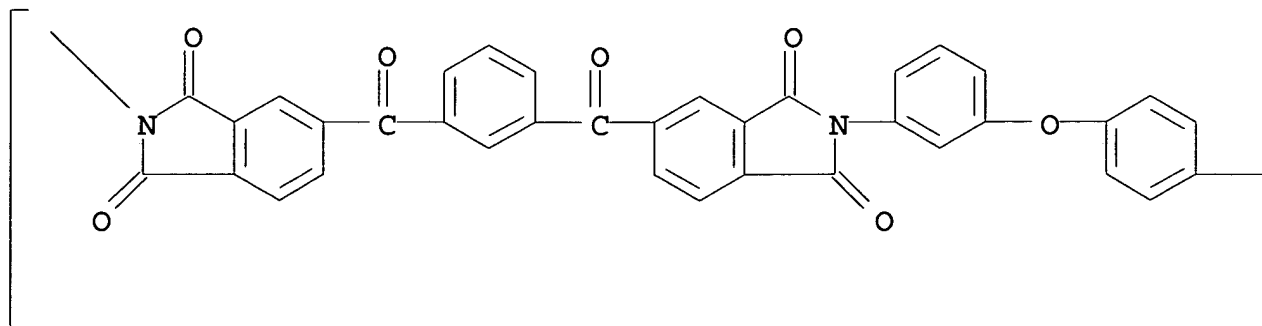
CMF C24 H10 O8



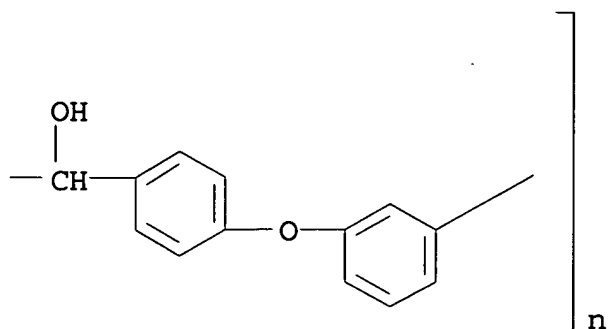
RN 153614-44-9 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl-1,3-phenylenecarbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylene(hydroxymethylene)-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



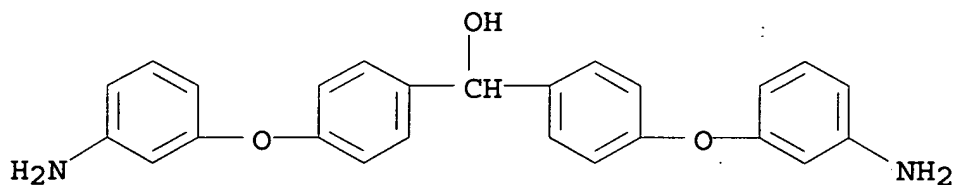
PAGE 1-B



RN 153614-45-0 HCAPLUS
 CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with
 4-(3-aminophenoxy)-α-[4-(3-aminophenoxy)phenyl]benzenemethan
 ol (9CI) (CA INDEX NAME)

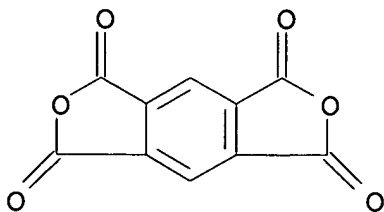
CM 1

CRN 153614-38-1
 CMF C25 H22 N2 O3



CM 2

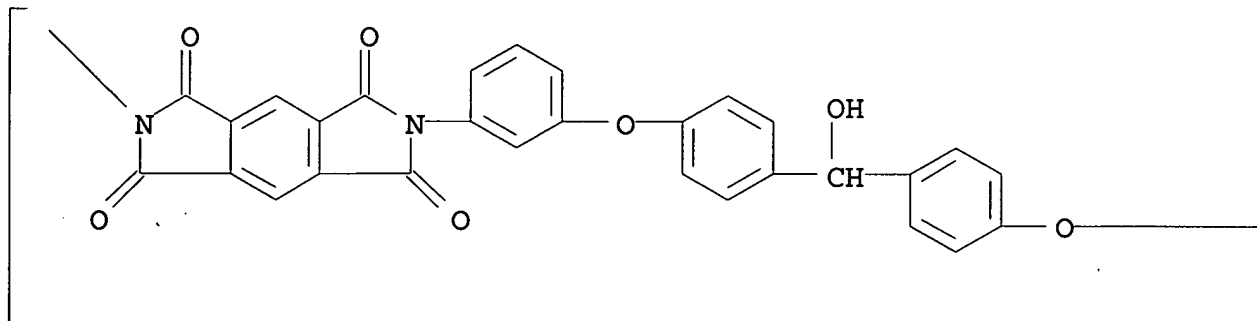
CRN 89-32-7
 CMF C10 H2 O6



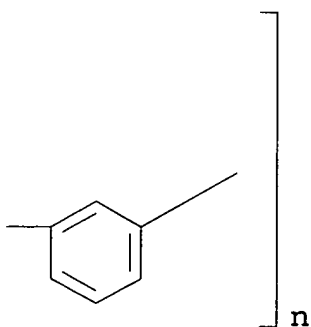
RN 153614-46-1 HCAPLUS

CN Poly[(5,7-dihydro-1,3,5,7-tetraoxobenzo[1,2-c:4,5-c']dipyrrole-
2,6(1H,3H)-diyl)-1,3-phenyleneoxy-1,4-phenylene(hydroxymethylene)-
1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



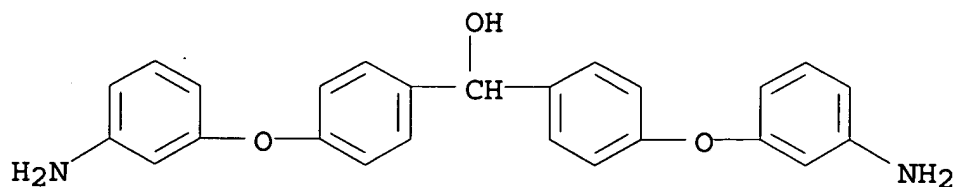
RN 153614-47-2 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-sulfonylbis-, polymer with
4-(3-aminophenoxy)- α -[4-(3-aminophenoxy)phenyl]benzenemethan
ol (9CI) (CA INDEX NAME)

CM 1

CRN 153614-38-1

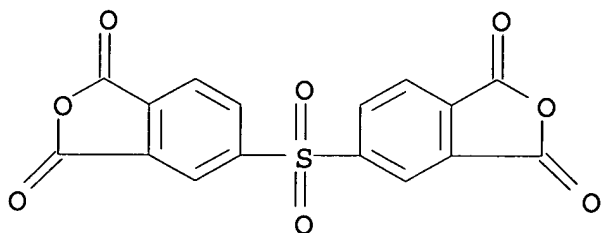
CMF C25 H22 N2 O3



CM 2

CRN 2540-99-0

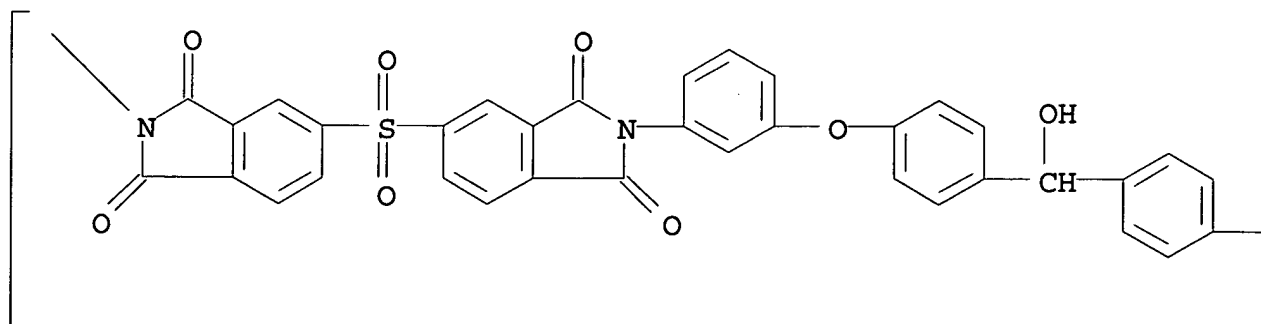
CMF C16 H6 O8 S



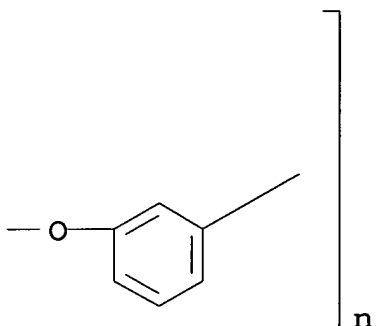
RN 153614-48-3 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)sulfonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylene(hydroxymethylene)-1,4-phenyleneoxy-1,3-phenylene] (9CI)
(CA INDEX NAME)

PAGE 1-A



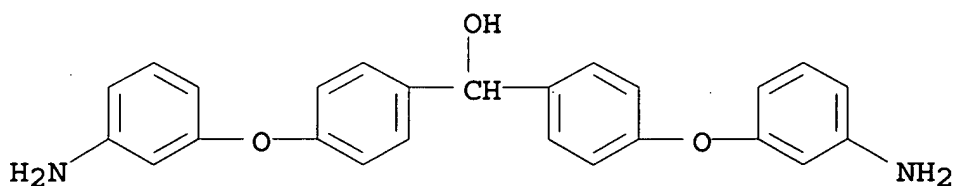
PAGE 1-B



RN 153614-49-4 HCAPLUS
 CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with
 4-(3-aminophenoxy)- α -[4-(3-aminophenoxy)phenyl]benzenemethan
 ol (9CI) (CA INDEX NAME)

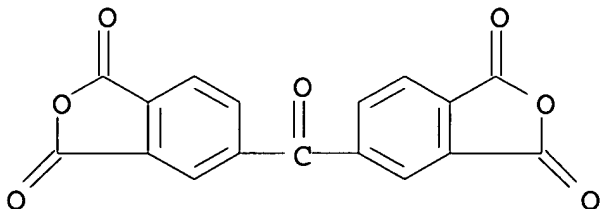
CM 1

CRN 153614-38-1
 CMF C25 H22 N2 O3



CM 2

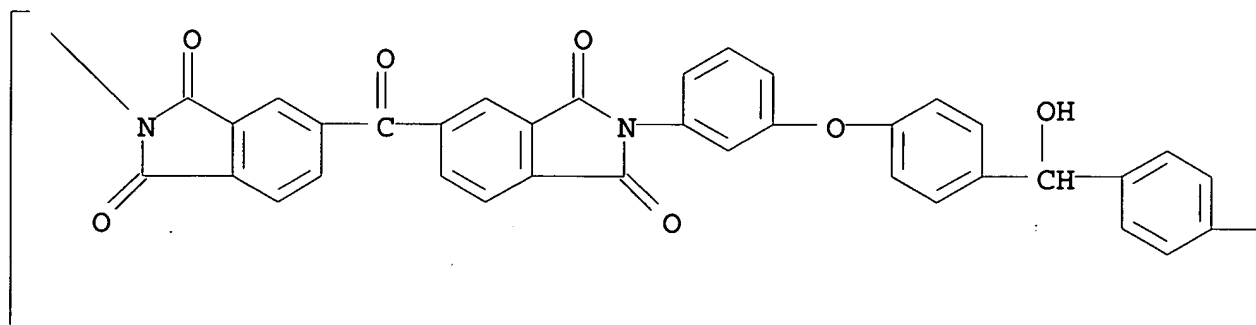
CRN 2421-28-5
 CMF C17 H6 O7



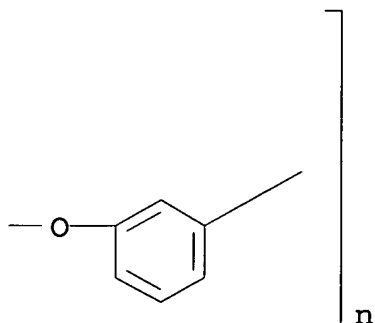
RN 153614-50-7 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)carbonyl(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylene(hydroxymethylene)-1,4-phenyleneoxy-1,3-phenylene] (9CI)
(CA INDEX NAME)

PAGE 1-A



PAGE 1-B



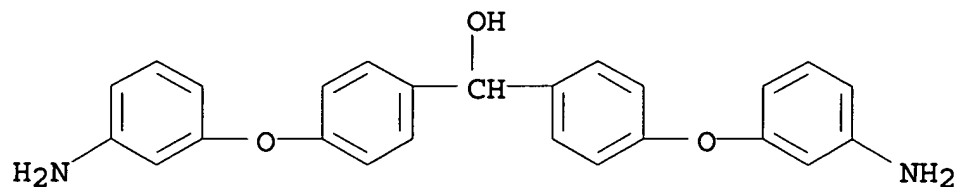
RN 153614-51-8 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-oxybis-, polymer with
4-(3-aminophenoxy)-alpha-[4-(3-aminophenoxy)phenyl]benzenemethan
ol (9CI) (CA INDEX NAME)

CM 1

CRN 153614-38-1

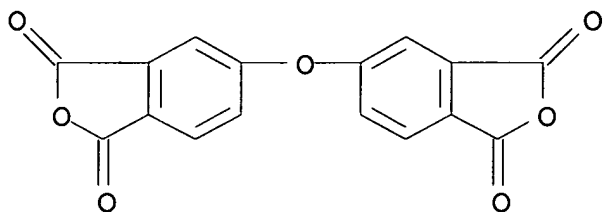
CMF C25 H22 N2 O3



CM 2

CRN 1823-59-2

CMF C16 H6 O7

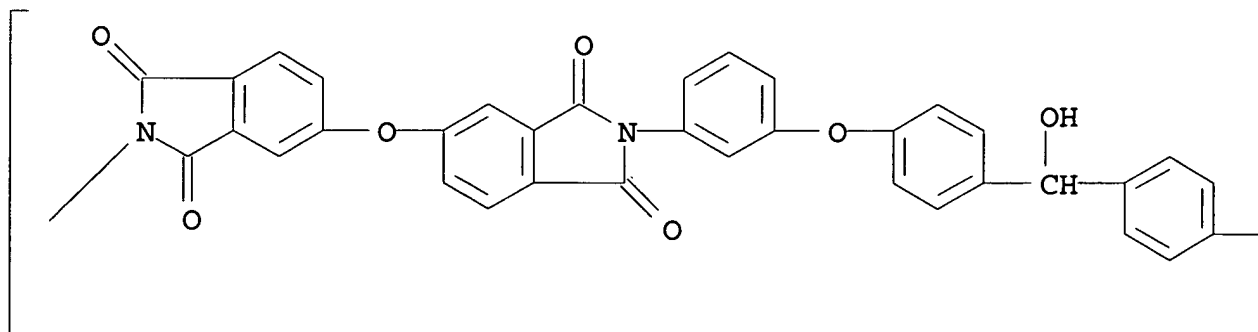


RN 153614-52-9 HCAPLUS

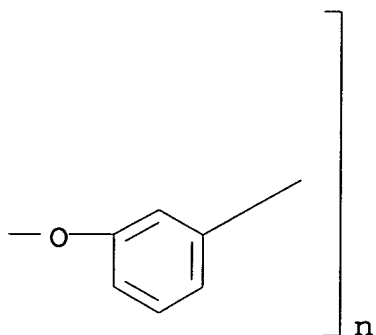
CN

Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylene(hydroxymethylene)-1,4-phenyleneoxy-1,3-phenylene] (9CI)
(CA INDEX NAME)

PAGE 1-A



PAGE 1-B



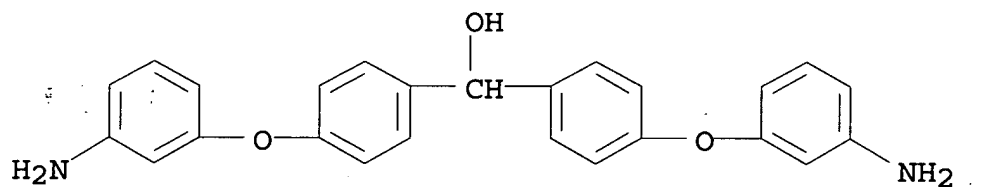
RN 153614-53-0 HCAPLUS

CN 1,3-Isobenzofurandione, 5,5'-[[1,1'-biphenyl]-4,4'-diylbis(oxy)]bis-, polymer with 4-(3-aminophenoxy)- α -[4-(3-aminophenoxy)phenyl]benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 153614-38-1

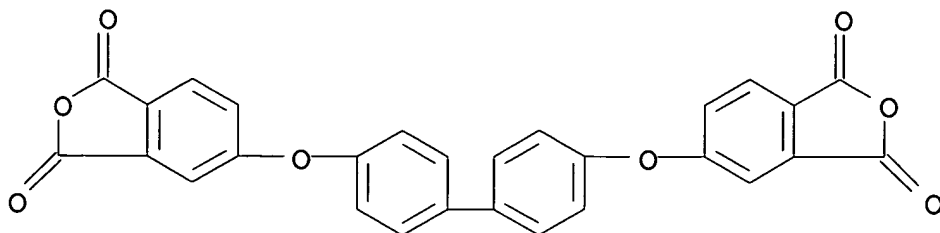
CMF C25 H22 N2 O3



CM 2

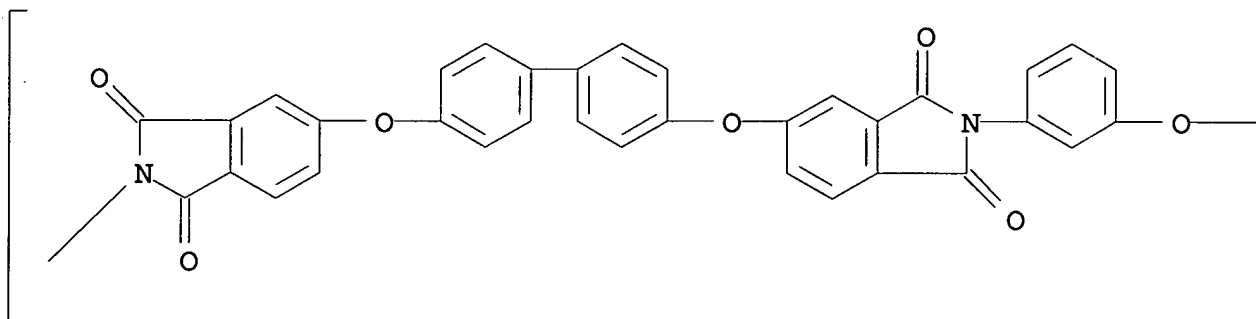
CRN 26177-82-2

CMF C28 H14 O8

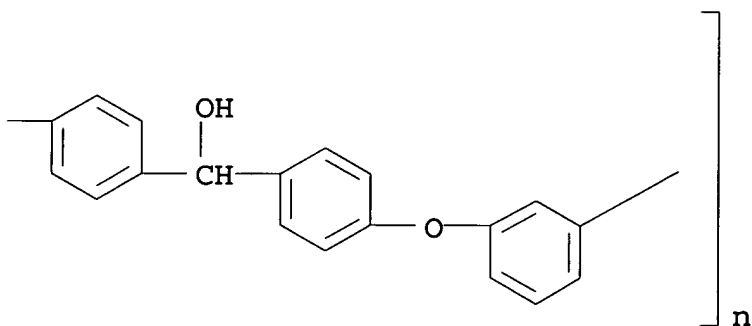


RN 153614-54-1 HCAPLUS
 CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)oxy[1,1'-biphenyl]-4,4'-diyloxy(1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)-1,3-phenyleneoxy-1,4-phenylene(hydroxymethylene)-1,4-phenyleneoxy-1,3-phenylene] (9CI) (CA INDEX NAME)

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PAGE 1-B



CC 35-5 (Chemistry of Synthetic High Polymers)
 IT 58845-22-0P 58845-25-3P 79984-42-2P 79984-43-3P
 152931-48-1P 152931-49-2P 152931-50-5P 152931-51-6P

153614-30-3P 153614-31-4P 153614-32-5P 153614-33-6P
153614-34-7P 153614-35-8P 153614-36-9P 153614-37-0P
153614-39-2P 153614-40-5P 153614-41-6P
153614-42-7P 153614-43-8P 153614-44-9P
153614-45-0P 153614-46-1P 153614-47-2P
153614-48-3P 153614-49-4P 153614-50-7P
153614-51-8P 153614-52-9P 153614-53-0P
153614-54-1P

(preparation and thermal properties of, structure in relation to)

L37 ANSWER 9 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:425390 HCAPLUS

DOCUMENT NUMBER: 115:25390

TITLE: Separation of proteins by surface modified polysulfone membranes

AUTHOR(S): Higuchi, Akon; Mishima, Satoko; Nakagawa, Tsutomu

CORPORATE SOURCE: Dep. Ind. Chem., Meiji Univ., Kawasaki, 214, Japan

SOURCE: Journal of Membrane Science (1991), 57(2-3), 175-85

CODEN: JMESDO; ISSN: 0376-7388

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Ultrafiltration separation expts. on mixed solution of bovine serum and

γ -globulin were performed in a stirred batch cell through unmodified and surface modified polysulfone membranes.

γ -Globulin permeated through the surface modified membrane to some extent but the bovine serum albumin was 100% rejected towards the end of the concentration process at pH 7.2 and 9.0,

although

the mol. weight of γ -globulin is higher than that of bovine serum albumin. The unmodified membrane did not extensively sep. the proteins in the mixed solution at any pH, unlike the surface modified membrane. It is suggested that the separation between

bovine

serum albumin and γ -globulin through the surface modified membranes is caused, not by a sieving effect or by charge repulsion between membranes and proteins, but by the balance of hydrophilic and hydrophobic segments on the surface of the modified membranes.

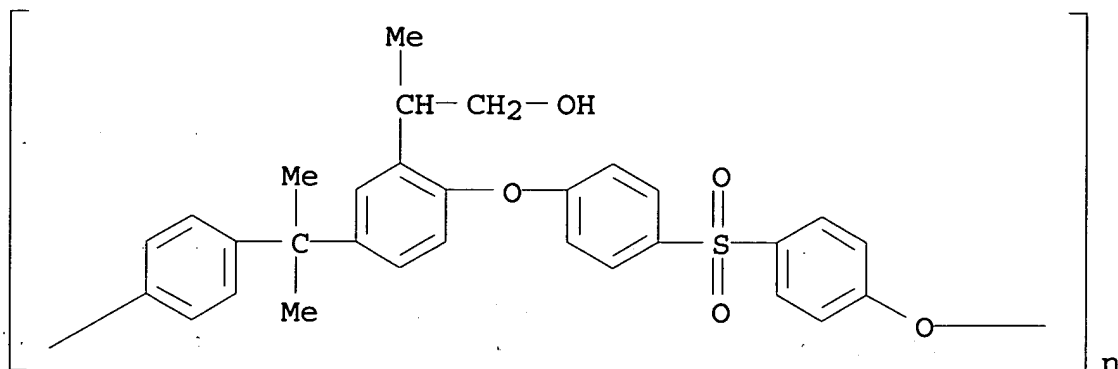
IT 134652-99-6

(membranes, proteins separation by)

RN 134652-99-6 HCAPLUS

CN Poly[oxy-1,4-phenylenesulfonyl-1,4-phenyleneoxy[2-(2-hydroxy-1-

methylethyl)-1,4-phenylene] (1-methylethylidene)-1,4-phenylene]
(9CI) (CA INDEX NAME)



CC 9-9 (Biochemical Methods)
Section cross-reference(s): 6

IT 134652-99-6
(membranes, proteins separation by)

L37 ANSWER 10 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:407521 HCAPLUS

DOCUMENT NUMBER: 113:7521

TITLE: Thermosetting polyarylamine-bismaleimide
composition manufacture

INVENTOR(S): Yamaya, Norimasa; Ohta, Masahiro; Yamaguchi,
Akihiro

PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan

SOURCE: Eur. Pat. Appl., 21 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

DATE	PATENT NO.	KIND	DATE	APPLICATION NO.
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1989	EP 342943	A1	19891123	EP 1989-304963
0517	EP 342943	B1	19930804	

R: CH, DE, FR, GB, IT, LI, NL
JP 01289834 A2 19891121 JP 1988-118363

1988

0517

JP 07005737 B4 19950125
US 4959443 A 19900925 US 1989-351471

1989

0515

CA 1333947 A1 19950110 CA 1989-599626

1989

0515

AU 8934895 A1 19891123 AU 1989-34895

1989

0517

AU 611801 B2 19910620
CN 1037721 A 19891206 CN 1989-103316

1989

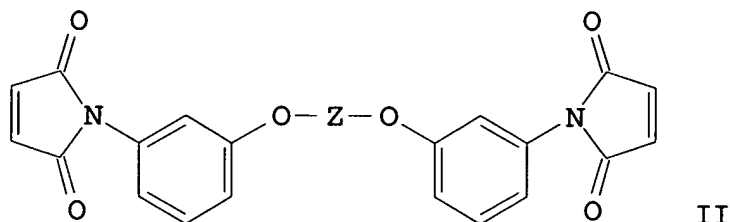
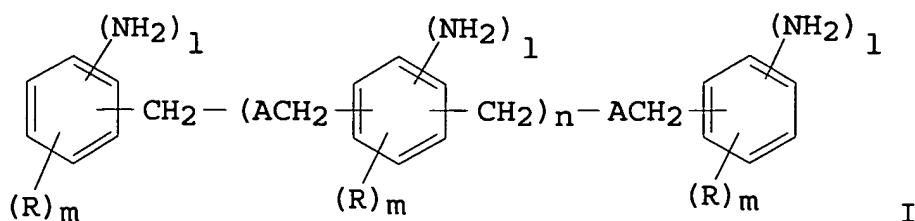
0517

PRIORITY APPLN. INFO.: JP 1988-118363 A

1988

0517

GI



AB Compns. with good heat resistance and strength comprise 5-100 parts polyamine I (A = C₆H₄ or alkyl derivative, biphenylylene, O(C₆H₄)₂, C₁₀H₆; R = halogen, OH, alkoxy, alkyl; l = 1 or 2; m = 0-3; n = 0-300) and the bismaleimides II [Z = m-C₆H₄, Z1(C₆H₄-p)₂ (Z1 = direct bond, hydrocarbylene, (CF₃)₂C, CO, S, SO, SO₂, O)]. Heating 100 parts 4,4'-bis(3-maleimidophenoxy)biphenyl and 10 parts reaction product of 12 mol PhNH₂ with 4.0 mol p-C₆H₄(CH₂OMe)₂ at 180° for 20 min and defoaming at 150°/10-15 mm gave a resin. Molding this resin at 200° and 50 kg/cm² for 30 min and postcuring at 250° for 4 h gave a molding having bending strength 13.0 kg/mm², flexural modulus 352 kg/mm², heat distortion temperature >300°, and thermal decomposition temperature 382°.

IT 127444-87-5P

(preparation of heat-resistant and strong)

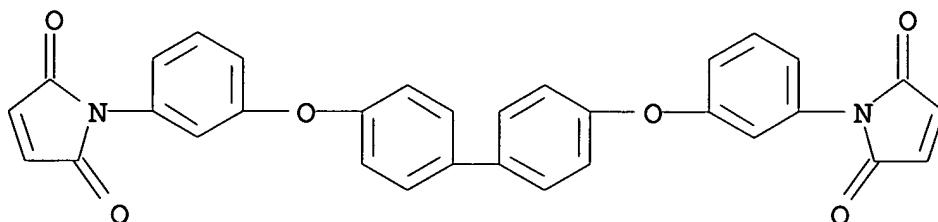
RN 127444-87-5 HCAPLUS

CN 1H-Pyrrole-2,5-dione, 1,1'-[[1,1'-biphenyl]-4,4'-diylbis(oxy-3,1-phenylene)]bis-, polymer with 2-methylbenzenamine and 4,4'-oxybis[benzenemethanol] (9CI) (CA INDEX NAME)

CM 1

CRN 113684-89-2

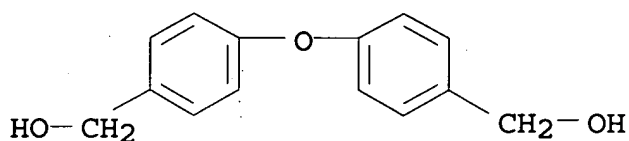
CMF C32 H20 N2 O6



CM 2

CRN 2350-43-8

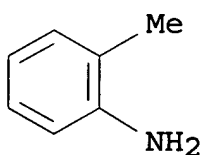
CMF C14 H14 O3



CM 3

CRN 95-53-4

CMF C7 H9 N



IC ICM C08G073-12
 CC 37-6 (Plastics Manufacture and Processing)
 IT 127398-79-2P 127398-80-5P 127398-81-6P 127406-83-1P
 127444-84-2P 127444-85-3P 127444-86-4P **127444-87-5P**
 127444-88-6P 127444-89-7P 127444-90-0P 127444-91-1P
 127444-92-2P 127444-93-3P 127444-94-4P
 (preparation of heat-resistant and strong)

L37 ANSWER 11 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1986:461012 HCAPLUS

DOCUMENT NUMBER: 105:61012
TITLE: Poly(anilophenylquinoxaline)s
AUTHOR(S): Krongauz, E. S.; Belomoina, N. M.;
Kel'tenova,
R. T.; Korshak, V. V.
CORPORATE SOURCE: Inst. Elementoorg. Soedin., Moscow, USSR
SOURCE: Vysokomolekulyarnye Soedineniya, Seriya A
(1986), 28(4), 771-6
CODEN: VYSAAF; ISSN: 0507-5475

DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Title polymers were prepared by polymerization of 4,4'-bis(acetoacetyl)diphenyl oxide with bis(aminophenylquinoxalines) at 135-160° in organic solvents. Chemical structure of the prepared polymers was confirmed by IR and 1H- and 13C-NMR spectroscopy, the polymers exhibited enamino-keto structure. All polymers were amorphous and heat-resistant, with a 10% weight

loss

occurring at 420-430°. Films prepared from these polymers had tensile strength 700-820 kg/cm² and elongation at break 60-85%. Interaction of the polymers with Pd or Ni

acetylacetone

led to formation of branched, but not crosslinked, structures. However, crosslinked products with improved heat resistance were obtained by thermal treatment of the polymers and films from them at 200-250° for 6 h.

IT 103467-64-7DP, complexes with nickel or palladium
103467-64-7P

(preparation and properties of)

RN 103467-64-7 HCAPLUS

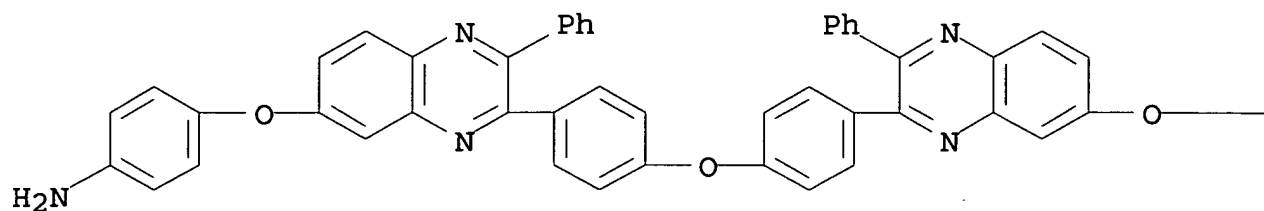
CN 2-Buten-1-one, 1,1'-(oxydi-4,1-phenylene)bis[3-hydroxy-, polymer with 4,4'-[oxybis[4,1-phenylene(3-phenyl-2,7-quinoxalinediyl)oxy]]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

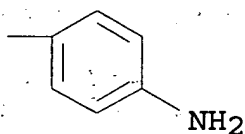
CRN 86386-81-4

CMF C52 H36 N6 O3

PAGE 1-A



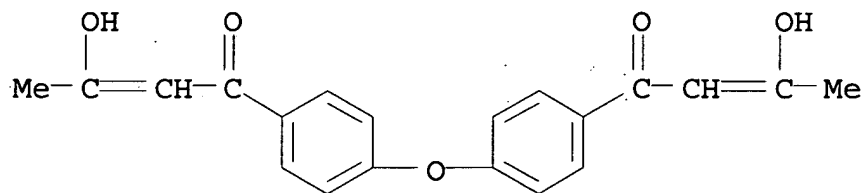
PAGE 1-B



CM 2

CRN 47459-18-7

CMF C20 H18 O5



RN 103467-64-7 HCAPLUS

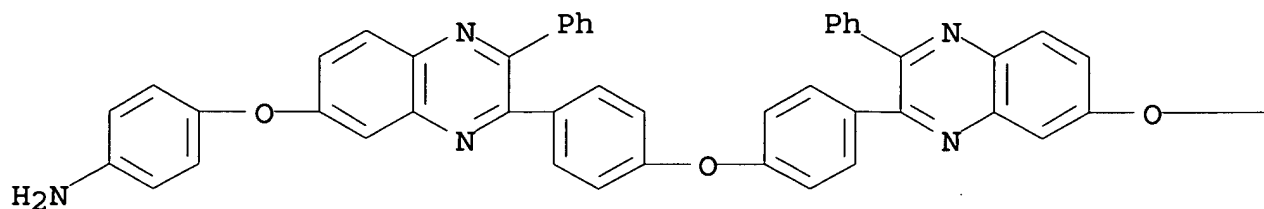
CN 2-Buten-1-one, 1,1'-(oxydi-4,1-phenylene)bis[3-hydroxy-, polymer
with 4,4'-[oxybis[4,1-phenylene(3-phenyl-2,7-
quinoxalinediyl)oxy]]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

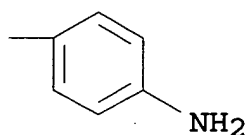
CRN 86386-81-4

CMF C52 H36 N6 O3

PAGE 1-A



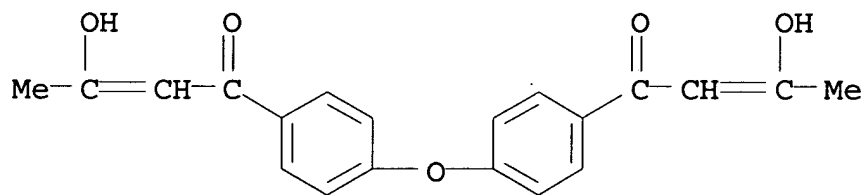
PAGE 1-B



CM 2

CRN 47459-18-7

CMF C20 H18 O5



CC 35-5 (Chemistry of Synthetic High Polymers)

IT 7440-02-0DP, complexes with poly(anilophenylquinoxalines)

7440-05-3DP, complexes with poly(anilophenylquinoxalines)

103467-62-5DP, complexes with nickel or palladium 103467-62-5P

103467-63-6DP, complexes with nickel or palladium 103467-63-6P

103467-64-7DP, complexes with nickel or palladium

103467-64-7P 103467-72-7DP, complexes with nickel or

palladium 103467-72-7P 103467-73-8DP, complexes with nickel

or

palladium 103467-73-8P 103467-74-9DP, complexes with nickel

or

palladium 103467-74-9P
(preparation and properties of)

L37 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1985:578986 HCAPLUS

DOCUMENT NUMBER: 103:178986

TITLE: Synthesis of bisphenol-based
acetylene-terminated thermosetting resins

AUTHOR(S): Wallace, J. S.; Arnold, F. E.; Feld, W. A.

CORPORATE SOURCE: Air Force Wright Aeronaut. Lab.,
Wright-Patterson Air Force Base, OH, 45433,
USA

SOURCE: ACS Symposium Series (1985), 282 (React.
Oligomers), 17-29

CODEN: ACSMC8; ISSN: 0097-6156

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The title resins were prepared by treating 4 mol

4,4'-dichlorodiphenyl sulfone [80-07-9] and

4,4'-difluorodiphenyl

sulfone [383-29-9] with 1 mol bisphenol such as

4,4'-isopropylidinediphenol [80-05-7], 4,4'-thiodiphenol

[2664-63-3], hydroquinone [123-31-9], and resorcinol

[108-46-3], endcapping the halo-terminated products with

4-(m-hydroxyphenyl)-2-methyl-3-butyn-2-ol [90684-07-4], and

cleaving the acetone terminal groups to give free ethynyl

functionalities. The acetylene-terminated products were cured at

288° for 8 h in air. Glass temps. of the cured and uncured

products were measured. Thermo-oxidative stability of the resins

was evaluated by isothermal aging in air at 315° for 200 h.

IT 98716-49-5P 98716-50-8P 98731-78-3P

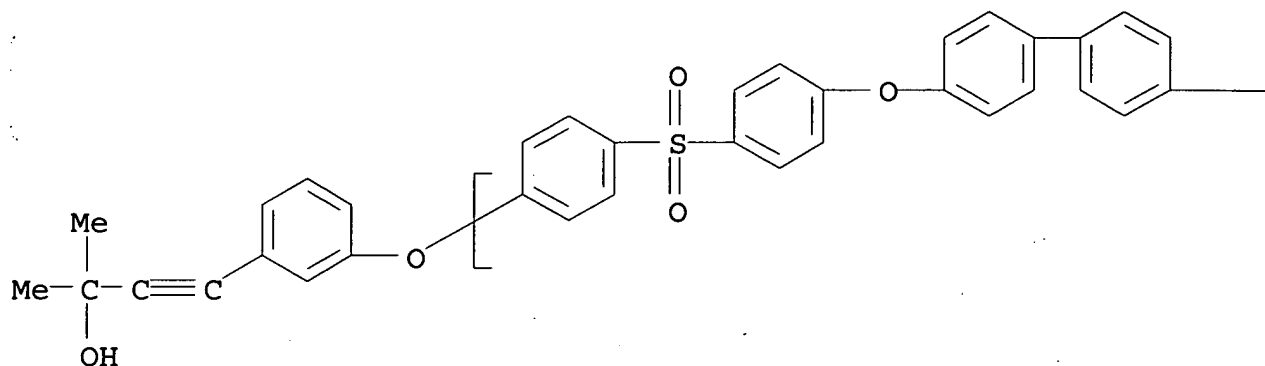
98731-79-4P

(oligomeric, preparation and reaction with potassium
hydroxide)

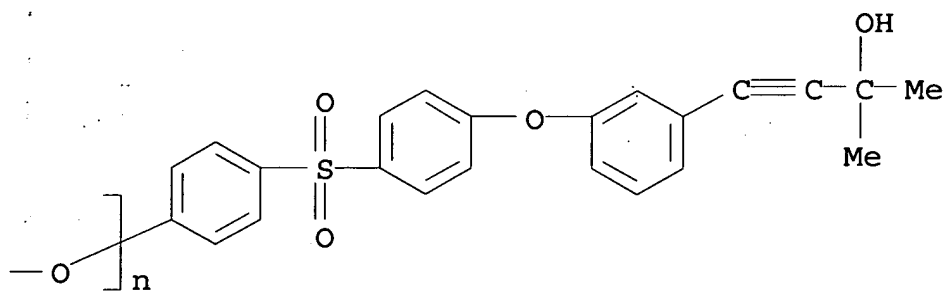
RN 98716-49-5 HCAPLUS

CN Poly(oxy[1,1'-biphenyl]-4,4'-diyoxy-1,4-phenylenesulfonyl-1,4-
phenylene), α -[4-[[4-[3-(3-hydroxy-3-methyl-1-
butynyl)phenoxy]phenyl]sulfonyl]phenyl]- ω -[3-(3-hydroxy-3-
methyl-1-butynyl)phenoxy]- (9CI) (CA INDEX NAME)

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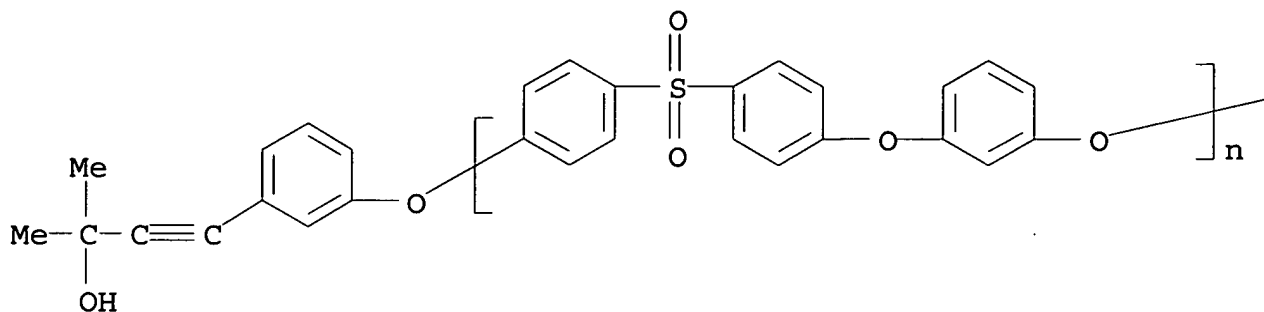
PAGE 1-B



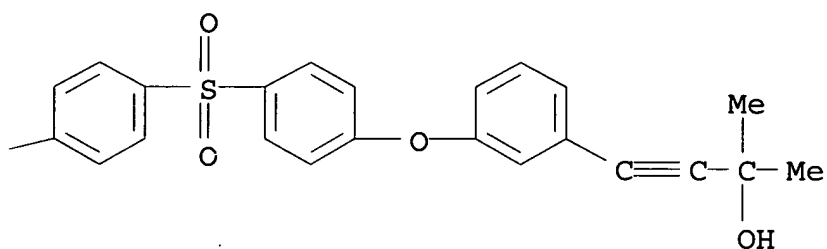
RN 98716-50-8 HCAPLUS

CN Poly(oxy-1,3-phenyleneoxy-1,4-phenylenesulfonyl-1,4-phenylene),
 α-[4-[[4-[3-(3-hydroxy-3-methyl-1-butynyl)phenoxy]phenyl]sulfonyl]phenyl]-ω-[3-(3-hydroxy-3-methyl-1-butynyl)phenoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



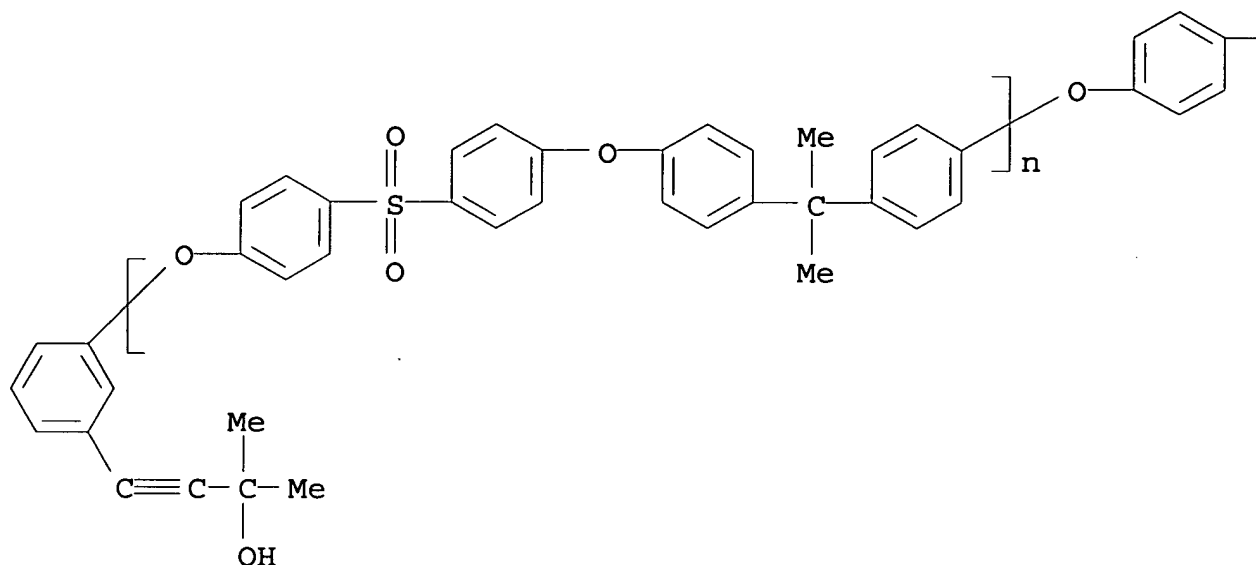
PAGE 1-B



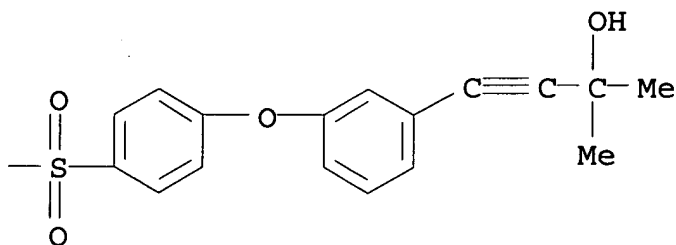
RN 98731-78-3 HCAPLUS

CN Poly[oxy-1,4-phenylenesulfonyl-1,4-phenyleneoxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene], α-[3-(3-hydroxy-3-methyl-1-butynyl)phenyl]-ω-[4-[[4-[3-(3-hydroxy-3-methyl-1-butynyl)phenoxy]phenyl]sulfonyl]phenoxy]-(9CI) (CA INDEX NAME)

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PAGE 1-B

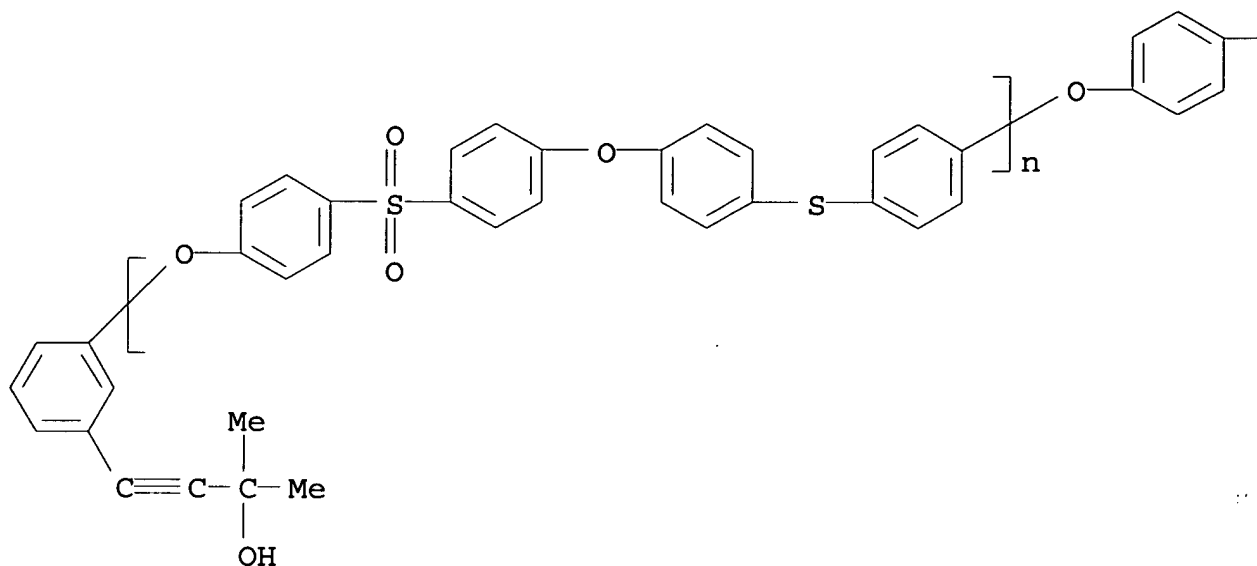


RN 98731-79-4 HCAPLUS

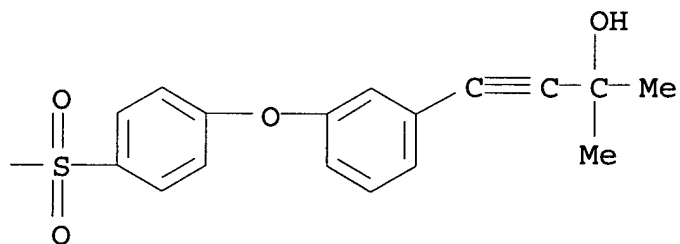
CN

Poly(oxy-1,4-phenylenesulfonyl-1,4-phenyleneoxy-1,4-phenylenethio-1,4-phenylene), α -[3-(3-hydroxy-3-methyl-1-butynyl)phenyl]-
 ω -[4-[[4-[3-(3-hydroxy-3-methyl-1-butynyl)phenoxy]phenyl]sulfonyl]phenoxy]- (9CI) (CA INDEX NAME)

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PAGE 1-B



CC 37-3 (Plastics Manufacture and Processing)

IT 98716-49-5P 98716-50-8P 98731-78-3P

98731-79-4P

(oligomeric, preparation and reaction with potassium hydroxide)

L37 ANSWER 13 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1985:561197 HCAPLUS

DOCUMENT NUMBER: 103:161197

TITLE: Arylether sulfone oligomers with acetylene termination from the Ullmann ether reaction

AUTHOR(S): Lindley, P. M.; Picklesimer, L. G.; Evans, B.; Arnold, F. E.; Kane, J. J.

CORPORATE SOURCE: Air Force Wright Aeronaut. Lab., Wright-Patterson Air Force Base, OH, 45433, USA

SOURCE: ACS Symposium Series (1985), 282 (React. Oligomers), 31-42
CODEN: ACSMC8; ISSN: 0097-6156

DOCUMENT TYPE: Journal

LANGUAGE: English

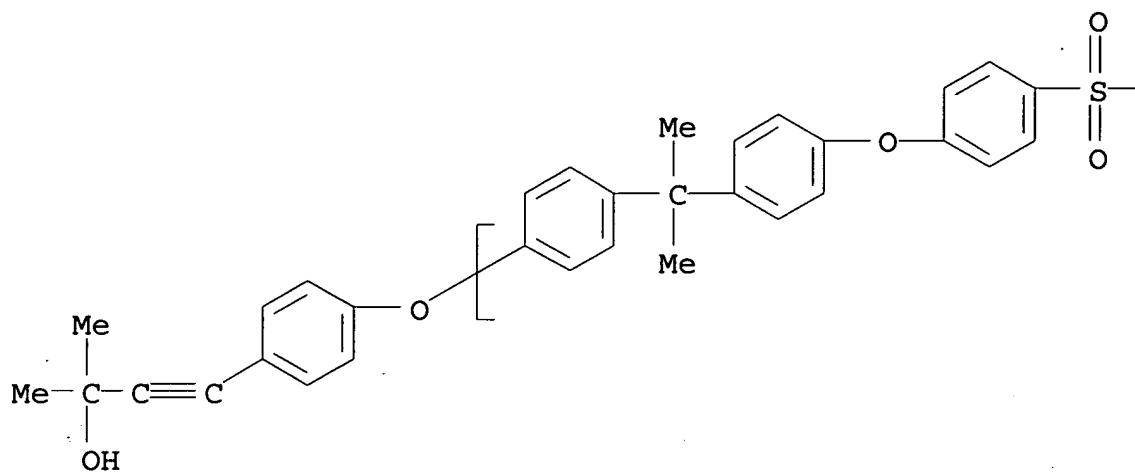
AB Acetylene-terminated oligomeric aryl ether sulfones (I) which gave high-mol.-weight polymers upon curing were prepared via 4-steps reaction sequences. High-mol.-weight diols were prepared using nucleophilic aromatic substitution of 4,4'-dichlorodiphenyl sulfone [80-07-9] with various diols such as resorcinol [108-46-3], hydroquinone [123-31-9], bisphenol A [80-05-7], 4,4'-dihydroxybiphenyl [92-88-6], and 4,4'-thiodiphenol [2664-63-3]. The high-mol.-weight diols were treated with excess C₆H₄Br₂ through the Ullmann ether reaction to give bromine-endcapped aryl ether sulfones, which were treated with acetylene to give I. The glass temps. of these products before and after curing were studied.

IT 98745-81-4P 98745-82-5P 98745-83-6P
98745-84-7P 98745-85-8P
(oligomeric, preparation of, for acetylene-terminated aryl ether sulfone oligomers)

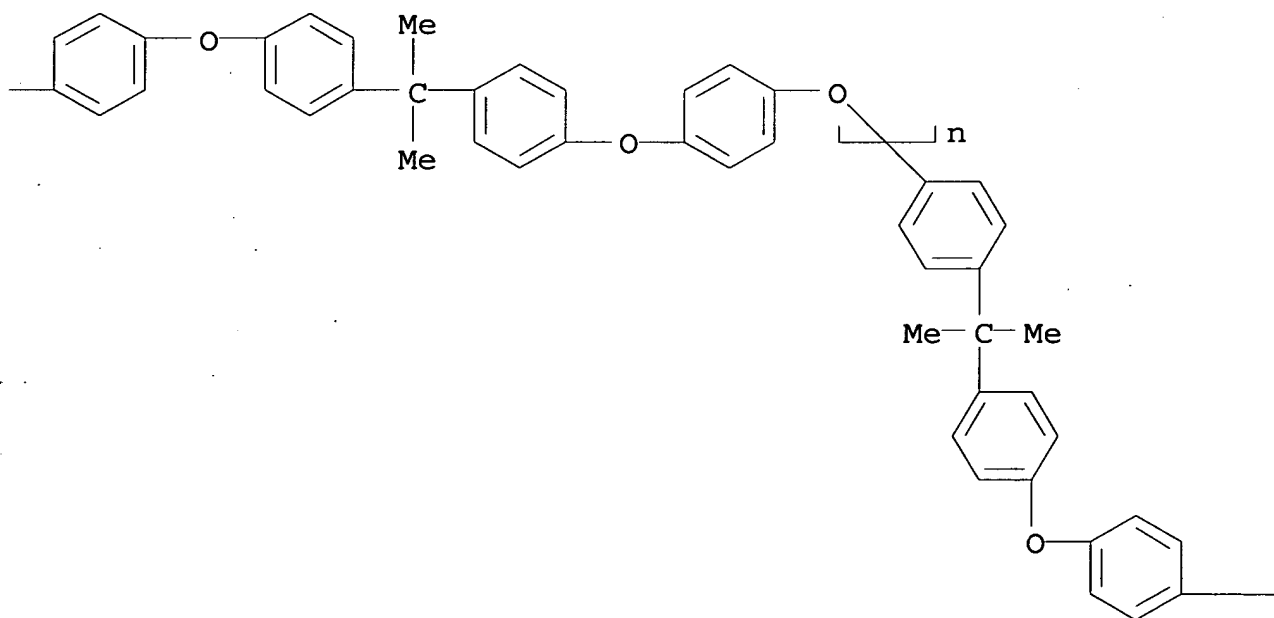
RN 98745-81-4 HCAPLUS

CN Poly[oxy-1,4-phenyleneoxy-1,4-phenylene(1-methylethylidene)-1,4-phenyleneoxy-1,4-phenylenesulfonyl-1,4-phenyleneoxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene], α -[4-[1-[4-[4-[4-[4-[1-[4-[4-(3-hydroxy-3-methyl-1-butynyl)phenoxy]phenyl]-1-methylethyl]phenoxy]phenyl]sulfonyl]phenoxy]phenyl]-1-methylethyl]phenyl]- ω -[4-(3-hydroxy-3-methyl-1-butynyl)phenoxy]- (9CI) (CA INDEX NAME)

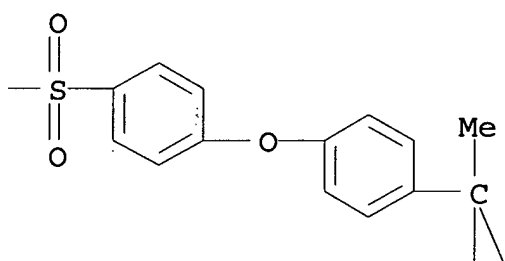
PAGE 1-A



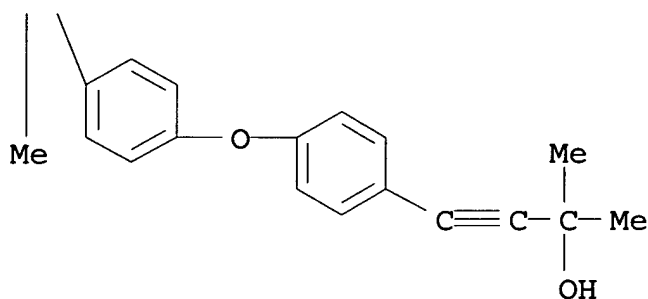
PAGE 1-B



PAGE 1-C



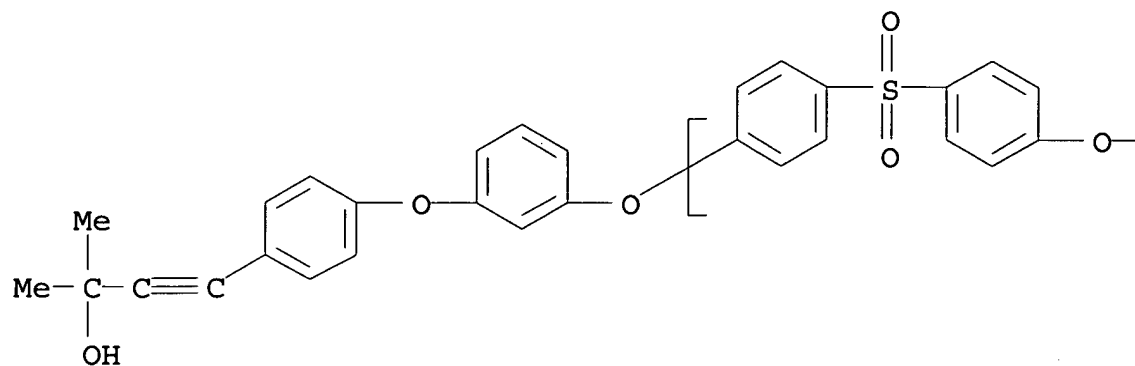
PAGE 2-C



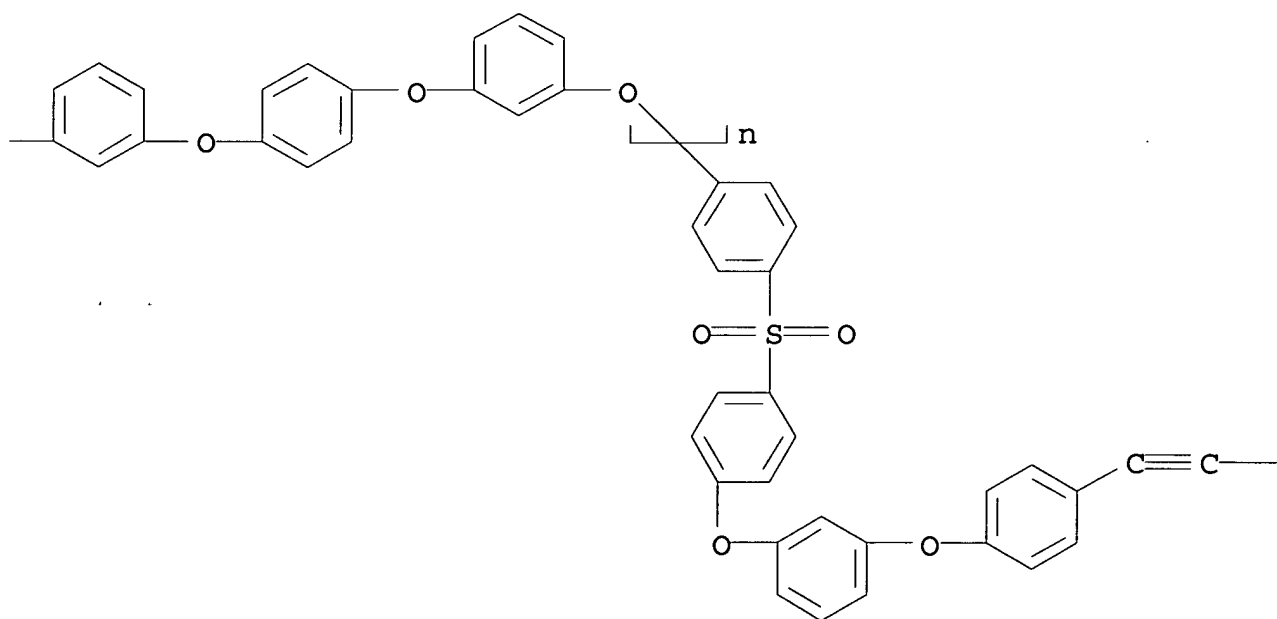
RN 98745-82-5 HCAPLUS

CN Poly(oxy-1,3-phenyleneoxy-1,4-phenyleneoxy-1,3-phenyleneoxy-1,4-phenylenesulfonyl-1,4-phenylene), α -[4-[[4-[3-[4-(3-hydroxy-3-methyl-1-butynyl)phenoxy]phenoxy]phenyl]sulfonyl]phenyl]- ω -[3-[4-(3-hydroxy-3-methyl-1-butynyl)phenoxy]phenoxy] - (9CI) (CA INDEX NAME)

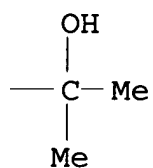
PAGE 1-A



PAGE 1-B



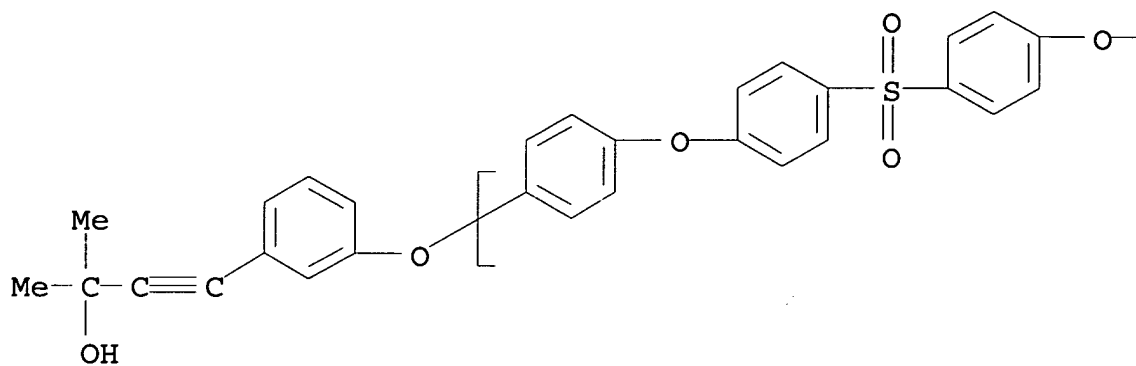
PAGE 1-C



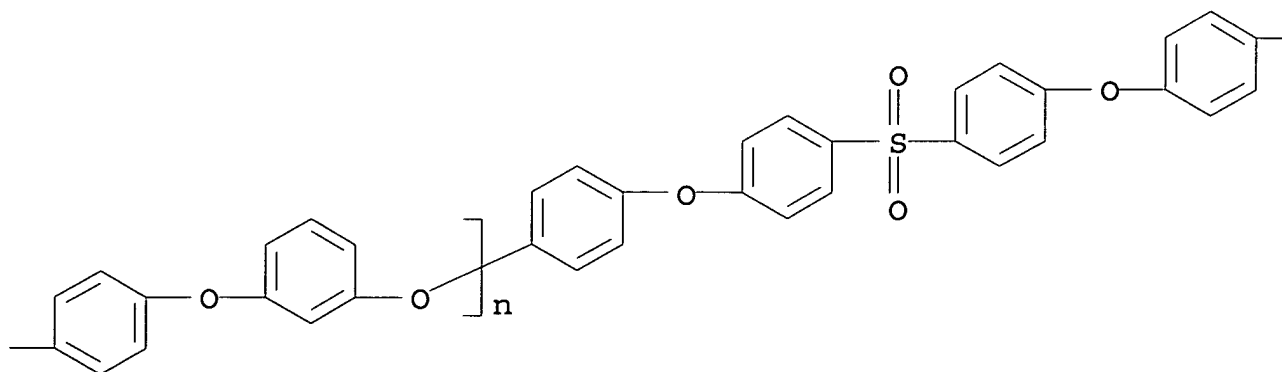
RN 98745-83-6 HCAPLUS

CN Poly(oxy-1,3-phenyleneoxy-1,4-phenyleneoxy-1,4-phenylenesulfonyl-1,4-phenyleneoxy-1,4-phenylene), α -[4-[4-[4-[4-[3-(3-hydroxy-3-methyl-1-butynyl)phenoxy]phenoxy]phenyl]sulfonyl]phenoxy
]phenyl]- ω -[3-(3-hydroxy-3-methyl-1-butynyl)phenoxy]-(9CI)
(CA INDEX NAME)

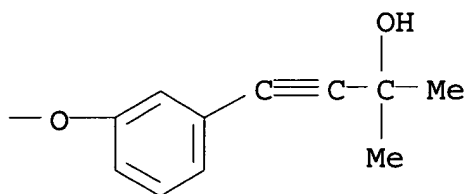
PAGE 1-A



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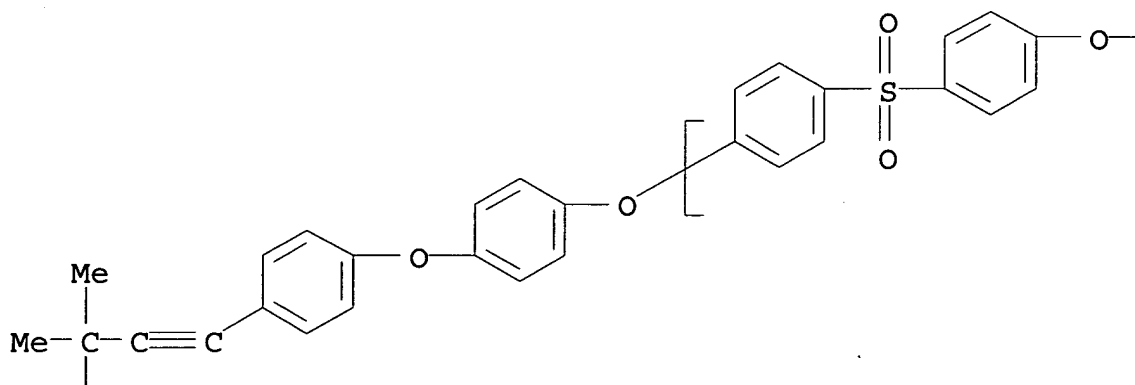
PAGE 1-C



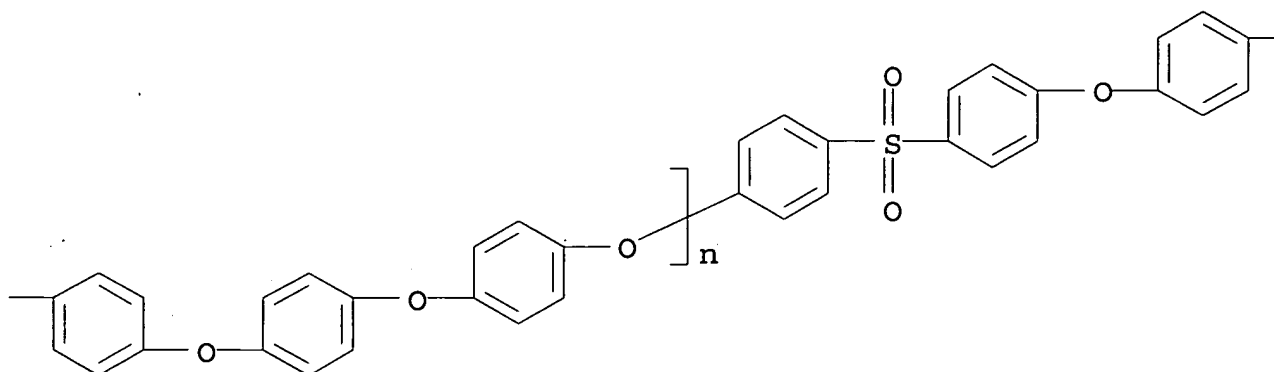
RN 98745-84-7 HCAPLUS

CN Poly(oxy-1,4-phenyleneoxy-1,4-phenyleneoxy-1,4-phenylenesulfonyl-1,4-phenylene), α -[4-[[4-[4-(3-hydroxy-3-methyl-1-butynyl)phenoxy]phenoxy]phenyl]sulfonyl]phenyl]- ω -[4-[4-(3-hydroxy-3-methyl-1-butynyl)phenoxy]phenoxy]-(9CI) (CA INDEX NAME)

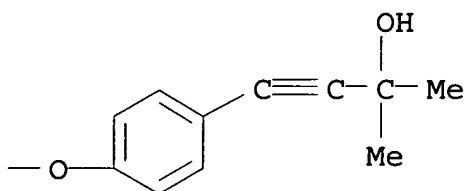
PAGE 1-A



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PAGE 2-A

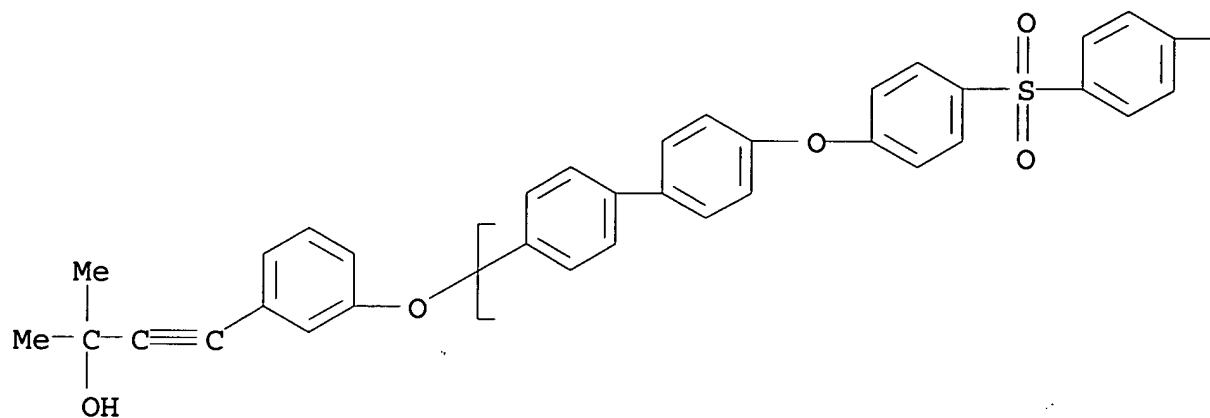


RN 98745-85-8 HCAPLUS

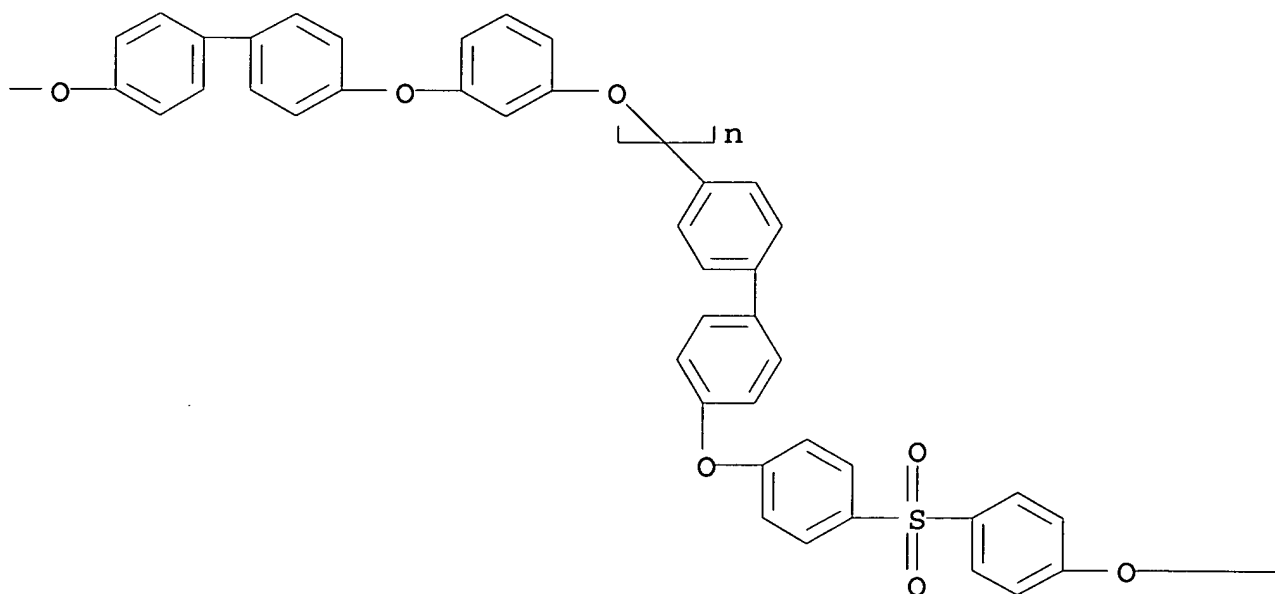
CN Poly(oxy-1,3-phenyleneoxy[1,1'-biphenyl]-4,4'-diyl-oxy-1,4-phenylenesulfonyl-1,4-phenyleneoxy[1,1'-biphenyl]-4,4'-diyl),
 α -[4'-[4-[4-[4'-[3-(3-hydroxy-3-methyl-1-

butynyl)phenoxy][1,1'-biphenyl]-4-yl]oxy]phenyl]sulfonyl]phenoxy][1,1'-biphenyl]-4-yl]- ω -[3-(3-hydroxy-3-methyl-1-butynyl)phenoxy]- (9CI) (CA INDEX NAME)

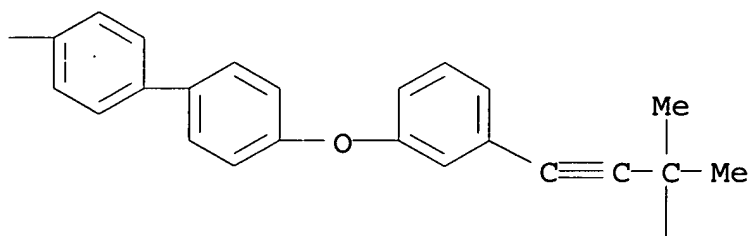
PAGE 1-A



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CC 37-3 (Plastics Manufacture and Processing)

IT 98745-81-4P 98745-82-5P 98745-83-6P

98745-84-7P 98745-85-8P

(oligomeric, preparation of, for acetylene-terminated aryl
ether
sulfone oligomers)

L37 ANSWER 14 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1974:464221 HCAPLUS

DOCUMENT NUMBER: 81:64221

TITLE: Transitions and relaxations in aromatic
polymers

AUTHOR(S): Wrasidlo, Wolfgang

CORPORATE SOURCE: Mater. Sci. Lab., Boeing Sci. Res. Lab.,
Seattle, WA, USA

SOURCE: Polym. Character., Interdisciplinary
Approaches, Proc. Symp. (1971), Meeting Date
1970, 157-81. Editor(s): Craver, Clara D.
Plenum: New York, N. Y.
CODEN: 28FZAI

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Lack of crystallinity was attributed to geometric isomerism
resulting in conformational as well as configurational disorder
in
22 structurally related polyquinoxalines, such as
poly[(p,p'-oxydiphenylene)diphenylbiquinoxaline] (I) [37196-94-4]
in an investigation of transition and relaxation phenomena over
the range 70-700.deg.K. Calorimetric measurements gave
discontinuities in heat capacities ranging from 12 to 54
cal/.deg.C/mole of repeat unit structures and provided
unambiguous
assignments of glass transition temps. (Tg) of these polymers.
Depending upon structure, Tg varied from 489 to 668.deg.K.
Thermal expansion curves of annealed bulk polymer samples between
70 and 770.deg.K exhibited only 1 discontinuity over the entire
temperature range, namely at Tg, thus indicating the absence of
any
motion leading to transitions in the solid state of these
polymers. The dielec. loss curves of the polymers exhibited only
1 broad and strong absorption maximum at temps. 30 to 100.deg.
higher
than the equivalent major mech. loss peaks.

IT 27903-30-6
(transitions and relaxations in)

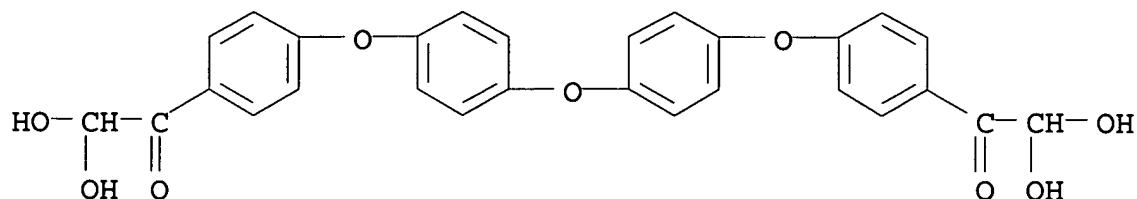
RN 27903-30-6 HCAPLUS

CN Ethanone, 1,1'-[oxybis(4,1-phenyleneoxy-4,1-phenylene)]bis[2,2-
dihydroxy-, polymer with [1,1'-biphenyl]-3,3',4,4'-tetramine
(9CI)
(CA INDEX NAME)

CM 1

CRN 28334-18-1

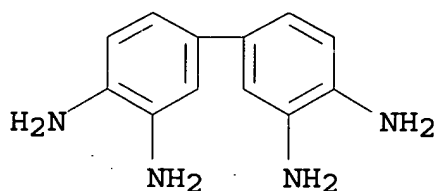
CMF C28 H22 O9



CM 2

CRN 91-95-2

CMF C12 H14 N4



CC 35-5 (Synthetic High Polymers)

IT	25568-77-8	25568-79-0	25656-52-4	26982-64-9	27029-29-4
	27044-26-4	27099-75-8	27322-90-3	27882-53-7	27903-28-2
	27903-29-3	27903-30-6	27903-32-8	29186-78-5	
	29186-79-6	29186-81-0	29186-82-1	29186-84-3	29323-20-4
	30527-16-3	32167-50-3	37196-91-1	37196-95-5	37196-96-6
	37196-97-7	39342-56-8	39410-52-1	51257-83-1	52232-62-9
	52256-45-8	52256-46-9	52256-47-0	52276-16-1	52276-24-1
	52276-25-2	52276-26-3	52276-27-4	52276-28-5	52276-29-6
	52276-30-9	52276-32-1	52276-36-5	52276-37-6	62602-41-9

(transitions and relaxations in)

L37 ANSWER 15 OF 15 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1970:477653 HCAPLUS

DOCUMENT NUMBER: 73:77653

TITLE: Polyquinoxalines containing p-phenylene ether and p-phenylene moieties

AUTHOR(S): Hergenrother, Paul M.; Kiyohara, D. E.

CORPORATE SOURCE: Polym. Sci. Lab., Boeing Sci. Res. Lab., Seattle, WA, USA

SOURCE: Macromolecules (1970), 3(4), 387-93

CODEN: MAMOBX; ISSN: 0024-9297

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of quinoxaline polymers containing p-phenylene ether and p-phenylene moieties was prepared by polymerization of 3,3'-diaminobenzidine with various aromatic bisglyoxals in m-cresol. The glass transition temperature of the polyquinoxalines varied

from

133° for a polymer highest in p-phenylene ether content to 350° for a polymer containing rigid p-phenylene moieties. Uv and visible spectroscopic study showed the λ_{\max} for the p-phenylene ether polymers to be about the same, while pronounced bathochromic shifts in the λ_{\max} were observed as the conjugated system was increased from p-phenylene to p,p'-biphenylene to p,p'-terphenylene in the p-phenylene

polymers.

Although thermal gravimetric anal. failed to show any distinct difference between the p-phenylene ether and the p-phenylene polymers, isothermal weight loss study at 400° in air showed that the p-phenylene polymers lost less weight after a given time than the p-phenylene ether polymers. Prior to polymer work, a series of quinoxaline model compds. was prepared to aid

in

polymer characterization.

IT 27903-30-6P 27903-31-7P

(preparation of)

RN 27903-30-6 HCAPLUS

CN Ethanone, 1,1'-[oxybis(4,1-phenyleneoxy-4,1-phenylene)]bis[2,2-dihydroxy-, polymer with [1,1'-biphenyl]-3,3',4,4'-tetramine

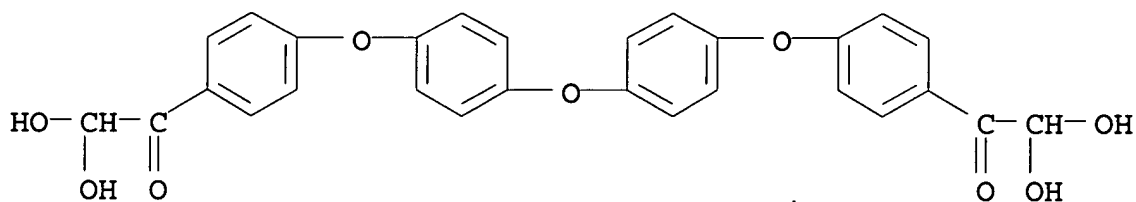
(9CI)

(CA INDEX NAME)

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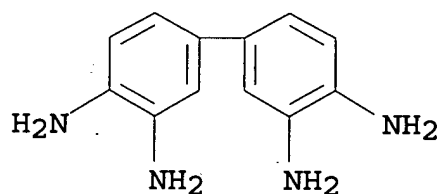
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CMF C28 H22 O9



CM 2

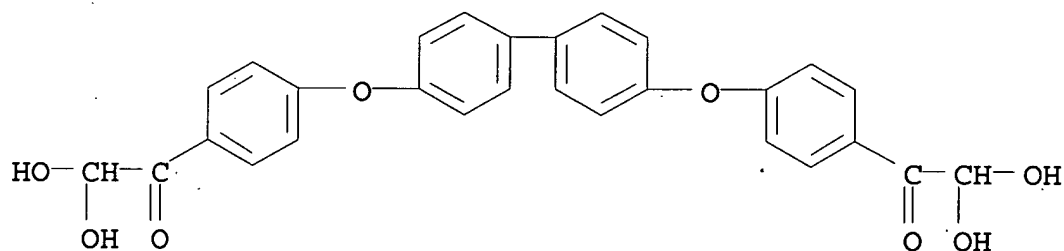
CRN 91-95-2
CMF C12 H14 N4



RN 27903-31-7 HCAPLUS
CN Acetophenone,
4',4'''-(4,4'-biphenylylenedioxy)bis[2,2-dihydroxy-,
polymer with 3,3',4,4'-biphenyltetramine (8CI) (CA INDEX NAME)

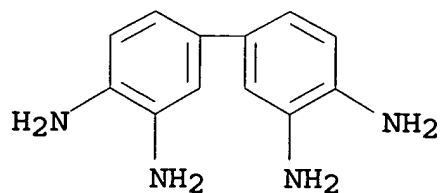
CM 1

CRN 28334-19-2
CMF C28 H22 O8



CM 2

CRN 91-95-2
CMF C12 H14 N4



CC 35 (Synthetic High Polymers)
IT 91-19-ODP, Quinoxaline, derivs., polymers 1094-85-5P
27044-26-4P 27880-71-3P 27882-53-7P 27903-28-2P
27903-29-3P **27903-30-6P 27903-31-7P**
27903-32-8P 27903-33-9P 28334-17-0P 28334-18-1P
28334-19-2P 28334-21-6P 28334-22-7P 28334-23-8P
28334-24-9P 28334-25-0P 28334-26-1P 39342-56-8P
39419-86-8P 52276-29-6P 52276-32-1P 52276-36-5P
(preparation of)

Day : Monday
Date: 4/18/2005


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Time: 11:09:15

Inventor Name Search Result

Your Search was:

Last Name = BURGOYNE

First Name = WILLIAM

Application#	Patent#	Status	Date Filed	Title	Inventor Name
<u>08077580</u>	<u>5336807</u>	250	06/15/1993	CROSSLINKING AGENTS FOR COATING AND ADHESIVE APPLICATIONS	BURGOYNE, JR., WILLIAM F.
<u>08184316</u>	<u>5360876</u>	250	01/21/1994	CURATIVE COATING SYSTEM	BURGOYNE, JR., WILLIAM F.
<u>07622461</u>	Not Issued	161	12/05/1990	N,N'-BIS(ALKOXYANLKYL)-N,N'-(2-HALOACETYL) PHENYLENEDIAMINES	BURGOYNE, WILLIAM
<u>10680360</u>	Not Issued	092	10/08/2003	SIPHON INITIATING DEVICE	BURGOYNE, WILLIAM B.
<u>06491506</u>	Not Issued	161	05/04/1983	BIS TERTIARY AMINO ALKYL DERIVATIVES AS SOLVENTS FOR ACID GAS REMOVAL FROM GAS STREAMS	BURGOYNE, WILLIAM F.
<u>06640500</u>	<u>4556546</u>	250	08/14/1984	BIS TERTIARY AMINO ALKYL DERIVATIVES AS SOLVENTS FOR ACID GAS REMOVAL FROM GAS STREAMS	BURGOYNE, WILLIAM F.
<u>06659597</u>	Not Issued	162	10/11/1984	ORTHOALKYLATED TOLUENEDIAMINE AND DERIVATIVES	BURGOYNE, WILLIAM F.
<u>06714661</u>	Not Issued	168	03/21/1985	SELF-AND DIOL REACTIVE FORMALDEHYDE-FREE CROSSLINKING MONOMERS AND THEIR DERIVED JPOLYMERS	BURGOYNE, WILLIAM F.
<u>06735426</u>	Not Issued	163	05/17/1985	PROCESS FOR PRODUCING MONOTERTIARY BUTYL TOLUENEDIAMINE	BURGOYNE, WILLIAM F.
<u>06760442</u>	<u>4691026</u>	150	07/30/1985	SELF-AND HYDROXYL REACTIVE FORMALDEHYDE-FREE CYCLIC HEMIAMIDAL AND HEMIAMIDE KETAL	BURGOYNE, WILLIAM F.

				CROSSLINKING MONOMERS	
<u>06762977</u>	Not Issued	163	08/06/1985	POLYMERS OF SELF- AND DIOL REACTIVE FORMALDEHYDE- FREE CROSSLINKING MONOMERS	BURGOYNE, WILLIAM F.
<u>06767945</u>	<u>5001263</u>	150	08/21/1985	FORMATION OF ORTHO- ALKYLATED AROMATIC AMINES FROM N-ALKYLATED AROMATIC AMINES	BURGOYNE, WILLIAM F.
<u>06768885</u>	<u>4745223</u>	150	08/23/1985	MONO-TERTIARY-ALKYLATED TOLUENEDIAMINE AND DERIVATIVES	BURGOYNE, WILLIAM F.
<u>06768886</u>	<u>4816543</u>	150	08/23/1985	POLYURETHANE SYSTEM USING MONOTERTIARY- ALKYLTOLUENEDIAMINE AS A CROSS LINKER	BURGOYNE, WILLIAM F.
<u>06796465</u>	<u>4740620</u>	150	11/08/1985	ALKYLATION OF AROMATIC AMINES IN THE PRESENCE OF ACIDIC, CRYSTALLINE MOLECULAR SIEVES	BURGOYNE, WILLIAM F.
<u>06837461</u>	<u>4714778</u>	150	03/07/1986	ALKENYLATED TOLUENEDIAMINES FOR USE IN PREPARING POLYURETHANE/UREA SYSTEMS	BURGOYNE, WILLIAM F.
<u>06860283</u>	Not Issued	163	05/06/1986	MONO-TERTIARY-ALKYLATED TOLUENEDIISOCYANATES AND DERIVATIVES	BURGOYNE, WILLIAM F.
<u>06888540</u>	<u>4794194</u>	150	07/21/1986	ALKENYLATED TOLUENEDIISOCYANATES FOR USE IN PREPARING POLYURETHANE/UREA SYSTEMS	BURGOYNE, WILLIAM F.
<u>06937769</u>	<u>4693837</u>	150	12/04/1986	TERTIARY BUTYL DERIVATIVES OF TOLUENEDIAMINE AND MIXTURES AS ANTIOXIDANT FOR ORGANIC MATERIALS	BURGOYNE, WILLIAM F.
<u>06946564</u>	<u>4711737</u>	150	12/24/1986	N-TERT-BUTYL DERIVATIVES OF TOLUENEDIAMINE AND MIXTURES AS ANTIOXIDANT FOR ORGANIC MATERIALS	BURGOYNE, WILLIAM F.
<u>06946565</u>	<u>4845291</u>	150	12/24/1986	CYCLOALKENYL ARYLDIAMINES	BURGOYNE, WILLIAM F.
<u>07010354</u>	Not Issued	161	02/03/1987	AMINO-BETA-ALKYL STYRENES FOR USE IN	BURGOYNE, WILLIAM F.

				PREPARING POLYURETHANE/UREA SYSTEMS AND POLYMERS	
<u>07049766</u>	Not Issued	161	05/12/1987	ALKENYLATED PHENYLENEDIAMINES FOR USE IN PREPARING CROSSLINKABLE CONDENSATION POLYMERS	BURGOYNE, WILLIAM F.
<u>07062540</u>	4788288	150	06/12/1987	SELF- AND HYDROXYL REACTIVE FORMALDEHYDE- FREE CYCLIC HEMIAMIDAL AND HEMIAMIDE KETAL CROSSLINKING MONOMERS	BURGOYNE, WILLIAM F.
<u>07092744</u>	4864055	150	09/03/1987	SELF- AND DIOL REACTIVE FORMALDEHYDE-FREE CROSSLINKING MONOMERS AND THEIR DERIVED POLYMERS	BURGOYNE, WILLIAM F.
<u>07108332</u>	4985159	150	10/14/1987	ALKENYLATED TOLUENEDIAMINES AS ANTIOXIDANTS FOR ORGANIC MATERIALS	BURGOYNE, WILLIAM F.
<u>07108336</u>	Not Issued	161	10/14/1987	BETA-ALPHA-UNSATURATED ALKENYL DIANILINES FOR USE IN PREPARING CROSS- LINKABLE CONDENSATION POLYMER	BURGOYNE, WILLIAM F.
<u>07108407</u>	Not Issued	161	10/14/1987	ALPHA, BETA-UNSATURATED ALKENYL BIS-ARYLDIAMINES FOR USE IN PREPARING CROSS-LINKABLE CONDENSATION POLYMER	BURGOYNE, WILLIAM F.
<u>07108408</u>	4845283	150	10/14/1987	ALKENYLATED DIPHENYLDIISOCYANATES FOR USE IN PREPARING POLYURETHANE/UREA SYSTEMS	BURGOYNE, WILLIAM F.
<u>07135771</u>	5072045	150	12/21/1987	PROCESS FOR THE CATALYTIC ALKENYLATION OF ARYLAMINES WITH CONJUGATED DIENES	BURGOYNE, WILLIAM F.
<u>07164602</u>	Not Issued	163	03/07/1988	TERT-ALKYL- PHENYLENEDIAMINES	BURGOYNE, WILLIAM F.
<u>07166288</u>	4892974	150	03/10/1988	PROCESS FOR PRODUCING MONO-ORTHO-TERT-BUTYL- ANILINE USING SILICA- ALUMINA CATALYSTS	BURGOYNE, WILLIAM F.

<u>07173221</u>	5068435	150	03/25/1988	ORTHO-ALKYLATED AROMATIC AMINES VIA GAMMA ALUMINA CATALYST	BURGOYNE, WILLIAM F.
<u>07220040</u>	4908480	150	07/15/1988	PROCESS FOR PRODUCING MONO-ORTHO-ETHYL-ANILINE USING SILICA-ALUMINA CATALYSTS	BURGOYNE, WILLIAM F.
<u>07253177</u>	Not Issued	163	10/04/1988	MONO-TERTIARY-ALKYLATED TOLUENEDIISOCYANATES AND DERIVATIVES	BURGOYNE, WILLIAM F.
<u>07275156</u>	Not Issued	161	11/22/1988	POLYURETHANE SYSTEMS USING MONOTERTIARY- ALKYL TOLUENEDIAMINE AS A CROSS LINKER	BURGOYNE, WILLIAM F.
<u>07316214</u>	4897092	150	02/27/1989	POLYIMIDE MEMBRANE HAVING IMPROVED FLUX	BURGOYNE, WILLIAM F.
<u>07329452</u>	Not Issued	161	03/28/1989	ALKENYLATED PHENYLENEDIAMINES FOR USE IN PREPARING CROSSLINKABLE CONDENSATION POLYMERS	BURGOYNE, WILLIAM F.
<u>07336383</u>	Not Issued	162	04/11/1989	MEMBRANES FORMED FROM UNSATURATED POLYIMIDES	BURGOYNE, WILLIAM F.
<u>07359920</u>	Not Issued	168	06/01/1989	MEMBRANES FORMED FROM UNSATURATED POLYIMIDES	BURGOYNE, WILLIAM F.
<u>07364933</u>	4994105	150	06/12/1989	N,N'-BIS(ALKOXYALKYL)-N,N'- (2-HALOACETYL) PHENYLENEDIAMINES	BURGOYNE, WILLIAM F.
<u>07365281</u>	4935053	150	06/12/1989	UNSATURATED HALOACETANILIDES	BURGOYNE, WILLIAM F.
<u>07406225</u>	4954144	150	09/12/1989	POLYIMIDE MEMBRANES AND THEIR USE FOR GAS SEPARATION	BURGOYNE, WILLIAM F.
<u>07420087</u>	4952220	150	10/11/1989	MEMBRANES FORMED FROM UNSATURATED POLYIMIDES	BURGOYNE, WILLIAM F.
<u>07424433</u>	4931501	150	10/20/1989	MODIFIED POLY(VINYL ALCOHOL) CONTAINING MORPHOLINOALKYLEETHER GROUPS	BURGOYNE, WILLIAM F.
<u>07433495</u>	4931182	250	11/08/1989	MEMBRANES FORMED FROM UNSATURATED POLYIMIDES	BURGOYNE, WILLIAM F.
<u>07439893</u>	Not Issued	161	11/21/1989	ALPHA,BETA-UNSATURATED ALKENYL BIS-ARYLAMINES FOR USE IN PREPARING CROSS-LINKABLE	BURGOYNE, WILLIAM F.

				CONDENSATION POLYMER	
07471146	Not Issued	166	01/26/1990	POLYMERS OF SELF- AND DIOL REACTIVE FORMALDEHYDE- FREE CROSSLINKING MONOMERS	BURGOYNE, WILLIAM F.
07471916	4990667	150	01/29/1990	ALKYLATED 1, 1-BIS(4- AMINOPHENYL)-1-PHENYL- 2,2,2-TRIFLUOROETHANES	BURGOYNE, WILLIAM F.
07472001	5055616	150	01/29/1990	ORTHO-ALKYLATED BISANILINES HAVING FLUORENYLIDENE BRIDGING GROUPS	BURGOYNE, WILLIAM F.

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	Last Name	First Name	
Search Another: Inventor	<input type="text" value="Burgoyne"/>	<input type="text" value="William"/>	<input type="button" value="Search"/>

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Day : Monday
Date: 4/18/2005


PALM INTRANET

Time: 11:10:32

Inventor Name Search Result

Your Search was:

Last Name = WONG

First Name = CHING

Application#	Patent#	Status	Date Filed	Title	Inventor Name
29032149	Not Issued	161	01/17/1995	ELECTRONIC GAMES DEVICE	WONG, CHING
10789191	Not Issued	020	02/27/2004	METHOD OF DISTRIBUTING CONTENT INFORMATION OVER A BROADCAST FILE SYSTEM	WONG, CHING F.
07143872	4942568	150	01/13/1988	OPTICAL TRANSMISSION DEVICE	WONG, CHING K.
07936146	5351253	250	08/26/1992	CONTINUOUSLY TUNABLE LASER OSCILLATOR AND METHOD OF CONTROLLING THE SAME	WONG, CHING K.
08764835	5894399	150	12/12/1996	ESD CLIP FOR PROTECTING AN ELECTRONIC DEVICE AGAINST ELECTROSTATIC DISCHARGE	WONG, CHING K.
60229619	Not Issued	159	08/31/2000	A HYBRID CLASSIFICATION SYSTEM	WONG, CHING KIAN
60364178	Not Issued	159	03/13/2002	HIGH K POLYMER FOR INTEGRAL CAPACITOR APPLICATIONS	WONG, CHING P.
07061506	Not Issued	161	06/15/1987	SUPERCONDUCTING MATERIAL	WONG, CHING P.
07097353	4810768	150	09/08/1987	METHOD AND FORMULATION FOR EXTENDING SHELF LIFE OF A SILICONE RESIN	WONG, CHING P.
07104148	Not Issued	161	10/05/1987	SUPERCONDUCTIVE MATERIAL	WONG, CHING P.
07229403	4888226	150	08/08/1988	SILICONE GEL ELECTRONIC DEVICE ENCAPSULANT	WONG, CHING P.
07434052	5051275	150	11/09/1989	SILICONE RESIN ELECTRONIC DEVICE ENCAPSULANT	WONG, CHING P.
07440837	Not Issued	161	11/20/1989	SILICONE-POLYIMIDE MATERIAL	WONG, CHING P.
10141334	Not	094	05/08/2002	LOW STRESS CONFORMAL	WONG, CHING

	Issued			COATINGS OF RELIABILITY WITHOUT HERMETICITY FOR MICROELECTROMECHANICAL SYSTEM BASED MULTICHIP MODULE ENCAPSULATION	PING
<u>60362157</u>	Not Issued	159	03/06/2002	ELECTRICAL CONDITION MONITORING METHOD FOR POLYMERS	WONG, CHING PING
<u>60518105</u>	Not Issued	159	11/07/2003	METHOD OF DEVELOPING LOTUS EFFECT COATINGS FOR MICROELECTROMECHANICAL SYSTEMS	WONG, CHING PING
<u>60415798</u>	Not Issued	159	10/03/2002	FLUXING REWORKABLE UNDERFILL FOR BOARD-LEVEL ASSEMBLY	WONG, CHING PING
<u>09805096</u>	<u>6473515</u>	150	03/13/2001	CAP AND CENTER POLE APPARATUS AND METHOD OF COUPLING	WONG, CHING TONG
<u>08908564</u>	Not Issued	161	08/08/1997	CAP AND CENTER POLE APPARATUS AND METHOD OF COUPLING	WONG, CHING TONG
<u>09277639</u>	<u>6289106</u>	150	03/26/1999	CAP AND CENTER POLE APPARATUS AND METHOD OF COUPLING	WONG, CHING TONG
<u>10824433</u>	Not Issued	030	04/15/2004	DOWNWARD MECHANISM FOR SUPPORT PINS	WONG, CHING-HONG
<u>06079000</u>	<u>4255481</u>	150	09/26/1979	MASK FOR SELECTIVELY TRANSMITTING THERETHROUGH A DESIRED LIGHT RADIANT ENERGY	WONG, CHING-PING
<u>06090797</u>	<u>4271425</u>	150	11/02/1979	ENCAPSULATED ELECTRONIC DEVICES AND ENCAPSULATING COMPOSITIONS HAVING CROWN ETHERS	WONG, CHING-PING
<u>06119077</u>	<u>4278784</u>	150	02/06/1980	ENCAPSULATED ELECTRONIC DEVICES AND ENCAPSULATING COMPOSITIONS	WONG, CHING-PING
<u>06145176</u>	<u>4282314</u>	150	04/30/1980	MASK FOR SELECTIVELY TRANSMITTING THERETHROUGH A DESIRED LIGHT RADIANT ENERGY	WONG, CHING-PING
<u>06180202</u>	<u>4318939</u>	150	08/21/1980	STABILIZED CATALYZED ORGANOPOLYSILOXANES	WONG, CHING-PING
<u>06222443</u>	<u>4330637</u>	150	01/05/1981	ENCAPSULATED ELECTRONIC DEVICES AND ENCAPSULATING COMPOSITIONS	WONG, CHING-PING

<u>06343135</u>	Not Issued	161	01/27/1982	METHOD OF PREPARING A METALLO-PORPHYRIN	WONG, CHING-PING
<u>06453004</u>	4508758	150	12/27/1982	ENCAPSULATED ELECTRONIC CIRCUIT	WONG, CHING-PING
<u>06608836</u>	4552818	150	05/10/1984	SILICONE ENCAPSULANT CONTAINING PORPHYRIN	WONG, CHING-PING
<u>06614898</u>	4564562	150	05/29/1984	SILICONE ENCAPSULATED DEVICES	WONG, CHING-PING
<u>06673011</u>	4592959	150	11/19/1984	SILICONE ENCAPSULATED DEVICES	WONG, CHING-PING
<u>06677681</u>	Not Issued	166	12/03/1984	STABILIZED SILICONE GELS	WONG, CHING-PING
<u>06774674</u>	4604144	150	09/11/1985	PROCESS FOR CLEANING A CIRCUIT BOARD	WONG, CHING-PING
<u>06805599</u>	4665148	150	12/10/1985	STABILIZED SILICONE GELS	WONG, CHING-PING
<u>06831764</u>	Not Issued	161	02/21/1986	METHOD AND FORMULATION FOR EXTENDING SLELF LIFE OF A SILICONE RESIN	WONG, CHING-PING
<u>06870578</u>	Not Issued	161	06/04/1986	SEMICONDUCTOR DEVICES HAVING IMPROVED EPOXY ENCAPSULANTS	WONG, CHING-PING
<u>06872294</u>	4720431	150	05/21/1986	SILICONE ENCAPSULATED DEVICES	WONG, CHING-PING
<u>06878717</u>	4720741	150	06/26/1986	ANTISTATIC AND ANTITACK COATING FOR CIRCUIT DEVICES	WONG, CHING-PING
<u>06925047</u>	4719274	150	10/30/1986	ARTICLE CONTAINING A STABILIZED SILICONE GEL	WONG, CHING-PING
<u>06940463</u>	Not Issued	166	02/05/1987	METHOD AND FORMULATION FOR EXTENDING SHELF LIFE OF A SILICONE RESIN	WONG, CHING-PING
<u>07354051</u>	Not Issued	166	05/18/1989	DEVICES FEATURING SILICONE ELASTOMERS	WONG, CHING-PING
<u>07515963</u>	5085913	150	04/27/1990	SILICONE MATERIAL	WONG, CHING-PING
<u>07569799</u>	Not Issued	168	08/22/1990	SILICONE RESIN ELECTRONIC DEVICE ENCAPSULANT	WONG, CHING-PING
<u>07726416</u>	5215801	150	07/05/1991	SILICONE RESIN ELECTRONIC DEVICE ENCAPSULANT	WONG, CHING-PING
<u>07730379</u>	Not Issued	166	07/12/1991	DEVICES FEATURING SILICONE ELASTOMERS	WONG, CHING-PING
<u>07766304</u>	5165956	150	09/27/1991	A METHOD OF ENCAPSULATING AN ELECTRONIC DEVICE WITH A SILICON ENCAPSULANT	WONG, CHING-PING

07802579	5213864	150	12/05/1991	SILICONE ENCAPSULANT	WONG, CHING-PING
07921654	5275841	150	07/30/1992	METHOD FOR ENCAPSULATING INTEGRATED CIRCUIT	WONG, CHING-PING
07936445	5317196	150	08/28/1992	ENCAPSULANT METHOD AND APPARATUS	WONG, CHING-PING


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Search Another: Inventor	<input type="text" value="Wong"/>	<input type="text" value="Ching"/>	<input type="button" value="Search"/>

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Day : Monday
Date: 4/18/2005

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Time: 11:11:04

Inventor Name Search Result

Your Search was:

Last Name = LIONG

First Name = SILVIA

Application#	Patent#	Status	Date Filed	Title	Inventor Name
10621022	Not Issued	071	07/16/2003	POLY(ARYLENE ETHER)S BEARING GRAFTED HYDROXYALKYLS FOR USE IN ELECTRICALLY CONDUCTIVE ADHESIVES	LIONG, SILVIA

Inventor Search Completed: No Records to Display.

Search Another: Inventor

Last Name	First Name	
<input type="text" value="Liong"/>	<input type="text" value="Silvia"/>	<input type="button" value="Search"/>

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=> s (polarylene ether# or poly arylene ether# or polyphenylene ether# or poly phenylene ether#) and graft? and hydroxyalkyl#

7 FILES SEARCHED...

L1 384 (POLARYLENE ETHER# OR POLY ARYLENE ETHER# OR POLYPHENYLENE ETHER
OR POLY PHENYLENE ETHER#) AND GRAFT? AND HYDROXYALKYL#

=> s l1 and (tert-BuLi or tert-butyllithium)

L2 1 L1 AND (TERT-BULI OR TERT-BUTYLLITHIUM)

=> d

L2 ANSWER 1 OF 1 USPATFULL on STN

AN 2005:17519 USPATFULL

TI Poly(arylene ether)s bearing
grafted hydroxyalkyls for use in electrically
conductive adhesives

IN Burgoyne, William Franklin, JR., Allentown, PA, UNITED STATES
Wong, Ching-Ping, Duluth, GA, UNITED STATES
Liong, Silvia, Atlanta, GA, UNITED STATES

PI US 2005014921 A1 20050120

AI US 2003-621022 A1 20030716 (10)

DT Utility

FS APPLICATION

LN.CNT 958

INCL INCLM: 528/086.000

INCLS: 528/488.000; 528/491.000; 528/493.000

NCL NCLM: 528/086.000

NCLS: 528/488.000; 528/491.000; 528/493.000

IC [7]

ICM: C08G065-00

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> s l1 and 2-undecanone

L3 1 L1 AND 2-UNDECANONE

=> s 11 and acetic acid#

L4 144 L1 AND ACETIC ACID#

=> s 14 and (hexanone or heptanone or octanone or nonanone or decanone or undecanone)

L5 2 L4 AND (HEXANONE OR HEPTANONE OR OCTANONE OR NONANONE OR DECANONE OR UNDECANONE)

=> d 15 1-2

L5 ANSWER 1 OF 2 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

AN 2001:2671 EPFULL

DUPD 20040310 DUPW 200411

TIEN Composition for film formation and insulating film.

TIFR Composition pour la fabrication des films et couches isolantes.

TIDE Beschichtungszusammensetzung fuer die Filmherstellung und isolierende Filme.

IN Okada, Takashi, 2-15-2-501, Umezono, Tsukuba City, Ibaraki, JP;
Nishikawa, Michinori, 2-6-1-401, Umezono, Tsukuba City, Ibaraki, JP;
Yamada, Kinji, 2-18-33-M1-2, Umezono, Tsukuba City, Ibaraki, JP

PA JSR Corporation, (Corporation, JSR), 6-10, Tsukiji 5-chome, Chuo-ku, Tokyo 104-0045, JP

PAN 4433841

AG Leson, Thomas Johannes Alois, Dipl.-Ing., Patentanwaelte

Tiedtke-Buehling-Kinne & Partner, Bavariaring 4, 80336 Muenchen, DE

AGN 78981

LAF English

LA English

LAP English

TL German; English; French

DT Patent

PIT EPA1 Application published with search report

PI EP 1122746 A1 20010808

DS BE DE FR GB NL

AI EP 2001-102318 A 20010201

PRAI JP 2000-24658 A 20000202

IC.VER 7

ICM H01B003-30

ICS C08G065-40

AN 2001:2671 EPFULL

DUPD 20040922 DUPW 200439

TIEN Composition for film formation and insulating film.

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Nishikawa, Michinori, 2-6-1-401, Umezono, Tsukuba City, Ibaraki, JP;
Yamada, Kinji, 2-18-33-M1-2, Umezono, Tsukuba City, Ibaraki, JP

PA JSR Corporation, (Corporation, JSR), 6-10, Tsukiji 5-chome, Chuo-ku, Tokyo 104-0045, JP

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DT Patent

PIT EPB1 Granted patent

PI EP 1122746 B1 20040922

DS BE DE FR GB NL

AI EP 2001-102318 A 20010201

PRAI JP 2000-24658 A 20000202

REN PATENT ABSTRACTS OF JAPAN vol. 2000, no. 01, 31 January 2000

(2000-01-31) & JP 11 292968 A (JSR CORP), 26 October 1999 (1999-10-26);

PATENT ABSTRACTS OF JAPAN vol. 1998, no. 11, 30 September 1998
(1998-09-30) & JP 10 152559 A (JSR CORP), 9 June 1998 (1998-06-09);
PATENT ABSTRACTS OF JAPAN vol. 1998, no. 09, 31 July 1998
(1998-07-31) & JP 10 087816 A (OKI ELECTRIC IND CO LTD), 7 April 1998
(1998-04-07)

REP EP 755957 A
EP 861864 A
EP 875906 A
EP 939096 A
WO 9929761 A

IC.VER 7

ICM H01B003-30

ICS C08G065-40

L5 ANSWER 2 OF 2 USPATFULL on STN

AN 2005:17519 USPATFULL

TI **Poly(arylene ether)s bearing**
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Wong, Ching-Ping, Duluth, GA, UNITED STATES

Liong, Silvia, Atlanta, GA, UNITED STATES

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NCL NCLM: 528/086.000

NCLS: 528/488.000; 528/491.000; 528/493.000

IC [7]

ICM: C08G065-00

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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